1420

THE

NAUTICAL ALMANAC

AND

ASTRONOMICAL EPHEMERIS,

FOR THE YEAR 1782.

Publiſhed by ORDER of the

COMMISSIONERS OF LONGITUDE.

MVSEVM
BRITAN
NICVM

LONDON

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EXTRACT from the Act of Parliament concerning the Longitude, made in the Fifth Year of the Reign of his preſent Majeſty.

WHEREAS the Publication of Nautical Almanacs conſtructed by proper Perſons, under the Direction of the ſaid Commiſſioners, would greatly contribute to make the ſaid Lunar Tables more generally uſeful; Be it further Enacted, by the Authority aforeſaid, That it ſhall and may be lawful to and for the ſaid Commiſſioners to cauſe ſuch Nautical Almanacs, or other uſeful Tables, to be conſtructed, and to print, publiſh, and vend, or cauſe to be printed, publiſhed, and vended, any Nautical Almanac or Almanacs, or other uſeful Table or Tables, which they, or the major Part of them, ſhall, from time to time, judge neceſſary and uſeful, in order to facilitate the Method of diſcovering the Longitude at Sea; any Law, Statute, excluſive Privilege, private Charter, or other Cuſtom, to the contrary thereof notwithſtanding.

And be it Enacted, by the Authority aforeſaid, That no Perſon or Perſons ſhall print, publiſh, or vend, or cauſe to be printed, publiſhed, or vended, any Nautical Almanac or Almanacs, or other Table or Tables conſtructed under the Direction of the ſaid Commiſſioners, without being firſt licenſed by the ſaid Commiſſioners, or the major Part of them: And if any Perſon or Perſons not ſo licenſed, or not being authorized by the Perſon or Perſons ſo licenſed by the ſaid Commiſſioners, ſhall print, publiſh, or vend, or cauſe to be printed, publiſhed, or vended, any ſuch Nautical Almanac or Almanacs, or other Table or Tables, every ſuch Perſon or Perſons ſhall, for every Copy of ſuch Nautical Almanac or Table ſo printed, publiſhed, or vended, forfeit and pay the Sum of Twenty Pounds; to be recovered by Action of Debt, Bill, Plaint, or Information, in any of his Majeſty's Courts of Record at *Weſtminſter*; and that One Moiety of ſuch Penalty and Forfeiture ſhall be to his Majeſty, his Heirs and Succeſſors, and the other Moiety to him or them that ſhall proſecute, inform, or ſue for the ſame.

EXTRACT of an Act for the Repeal of all former Acts concerning the Longitude at Sea, except ſo much thereof as relates to the Appointment and Authority of the Commiſſioners thereby conſtituted, and alſo ſuch Clauſes as relate to the conſtructing, printing, publiſhing, vending, and licenſing of Nautical Almanacs and other uſeful Tables; and for the more effectual Encouragement and Reward of ſuch Perſon and Perſons as ſhall diſcover a Method for finding the ſame, or ſhall make uſeful Diſcoveries in Navigation; and for the better making Experiments relating thereto: Made in the Fourteenth Year of the Reign of his preſent Majeſty.

BE it Enacted by the KING's Moſt Excellent Majeſty, by and with the Advice and Conſent of the Lords Spiritual and Temporal, and Commons, in this preſent Parliament aſſembled, and by the Authority of the ſame, That each and every of the ſaid recited Acts (ſave and except ſuch Clauſe and Clauſes in each or any of them as relate to the Appointment or Authority of all or any of the Commiſſioners thereby reſpectively conſtituted, and alſo ſuch Clauſe and Clauſes as relate to the conſtructing, printing, publiſhing, vending, and licenſing of Nautical Almanacs, and other uſeful Tables) ſhall, from and after the Twenty-fourth Day of *June* One thouſand Seven hundred and Seventy-four, be, and are hereby repealed.

And, for a due and ſufficient Encouragement to any Perſon or Perſons who ſhall diſcover any Method or Methods for finding the ſaid Longitude, Be it Enacted by the Authority aforeſaid, That the Firſt Author or Authors, Diſcoverer or Diſcoverers, of each and every ſuch Method or Methods, his or their Executors, Adminiſtrators, or Aſſigns, ſhall be intitled to and have the Rewards or Sums of Money herein-after mentioned; that is to ſay, In caſe the Method propoſed ſhall be, by means of a Time-keeper, the Principles whereof have not hitherto been made public, to the Reward or Sum of Five thouſand

Pounds, if ſuch Method determines the ſaid Longitude to One Degree of a great Circle, or Sixty geographical Miles; to the Reward or Sum of Seven thouſand Five hundred Pounds, if it determines the ſame to Two Thirds of that Diſtance; and to the Reward or Sum of Ten thouſand Pounds, if it determines the ſame to One Half of the ſaid Diſtance: Which reſpective Rewards ſhall be due and paid when ſuch Method ſhall have been ſufficiently tried by the following Experiments and Voyages to be made and performed by ſuch Perſons, and under ſuch Reſtrictions, as the ſaid Commiſſioners for the Diſcovery of Longitude at Sea reſpectively conſtituted by the above-recited Acts, or the major Part of them, ſhall think fit to appoint and direct; (that is to ſay), When and ſo ſoon as Two or more Time-keepers of the ſame Conſtruction ſhall have been tried at the ſame Time, for the Space of Twelve Months, at the Royal Obſervatory at *Greenwich*, then in Two Voyages round the Iſland of *Great Britain*, in contrary Directions, and in ſuch other Voyages to different Climates as the ſaid Commiſſioners ſhall think fit to direct and appoint; and after their Return from ſuch Voyages, or any of them, for ſuch longer Time, at the ſaid Obſervatory, not exceeding Twelve Months, as the ſaid Commiſſioners ſhall judge neceſſary; and alſo when and ſo ſoon as the ſaid Commiſſioners, or Two Thirds of them at the leaſt, ſhall, after ſuch Experiments and Voyages have been made and performed as aforeſaid, have declared and determined that ſuch Method is generally practicable and uſeful, and ſufficiently exact to determine the Longitude at Sea within the Degrees or Limits aforeſaid, in all Voyages for the Space of Six Months, (Impediments from cloudy and hazy Weather excepted); and alſo when and ſo ſoon as the Principles and Practice of ſuch Method are fully diſcovered and explained to the Satisfaction of the ſaid Commiſſioners, or Two Thirds of them at leaſt; and ſuch Author or Authors, Diſcoverer or Diſcoverers, ſhall have delivered up and aſſigned over to the ſaid Commiſſioners, for the Uſe of the Public, the abſolute Property of ſuch Time-keepers as ſhall have been tried by ſuch Experiments and Voyages as aforeſaid, together with all Plates, Deſcriptions, Theories, and Explanations belonging or relating to the ſame, and which ſhall contain the Whole of ſuch Diſcovery of the Longitude; and in caſe the Method propoſed ſhall be by means of improved Solar and Lunar Tables, then and in ſuch Caſe the Author or Authors of ſuch improved Solar and Lunar Tables, their Executors, Adminiſtrators, or Aſſigns, ſhall be intitled to and have the Reward or Sum of Five thouſand Pounds, if ſuch Solar and Lunar Tables ſhall prove ſufficiently exact to ſhew the Diſtance of the Moon from the Sun and Stars in the Heavens within Fifteen Seconds of a Degree, anſwering to about Seven Minutes of Longitude, after making an Allowance of Half a Degree for the Errors of Obſervation; and when it ſhall appear to the Satisfaction of the ſaid Commiſſioners, or Two Thirds of them at leaſt, that ſuch Tables are conſtructed intirely upon the Principles of Gravitation laid down by Sir *Iſaac Newton* (except with reſpect to thoſe Elements which muſt neceſſarily be taken from aſtronomical Obſervations), and alſo when the Truth of ſuch Tables ſhall have been further confirmed and proved by Compariſon with a Series of aſtronomical Obſervations made during a Period of Eighteen Years and a Half, which is deemed the Period of the Irregularities of the Lunar Motions; which Reward ſhall be due and paid, when the ſaid Commiſſioners, or Two Thirds of them at leaſt, ſhall have declared and determined, that ſuch Tables are ſufficiently exact to ſhew the Diſtance of the Moon from the Sun and Stars in the Heavens, within the Limits above-mentioned; and alſo when the Author or Authors of ſuch improved Solar and Lunar Tables, his or their Executors, Adminiſtrators, or Aſſigns, ſhall have delivered up and aſſigned over to the ſaid Commiſſioners, for the Uſe of the Public, the abſolute Right and Property to and in the ſame, together with the Theory relating thereunto; and in caſe any other Method ſhall be propoſed for finding the Longitude at Sea beſides thoſe before-mentioned, that then and in ſuch Caſe the Firſt Author or Authors, Diſcoverer or Diſcoverers, of any ſuch Method, his or their Executors, Adminiſtrators, or Aſſigns, ſhall be intitled to and have the Reward or Sum of Five thouſand Pounds, if it ſhall determine the ſaid Longitude within One Degree of a great Circle or Sixty geographical Miles; to the Reward or Sum of Seven thouſand Five hundred Pounds, if it ſhall determine the ſame to Two Thirds of that Diſtance; and to the Reward or Sum of Ten thouſand Pounds, if it ſhall determine the ſame to One Half of the ſame Diſtance; which reſpective Rewards ſhall be due and paid, ſo ſoon as the ſaid Commiſſioners, or Two Thirds of them at leaſt, ſhall, after proper Trial have been made by their Appointment and Direction, have determined that ſuch Method ſhall be generally practicable and uſeful for finding the Longitude at Sea within the reſpective Limits above-mentioned.

And be it further Enacted, by the Authority aforeſaid, That when and ſo ſoon as any ſuch Method or Methods, for the Diſcovery of the ſaid Longitude, ſhall be tried, as before-mentioned, and found practicable and uſeful at Sea, and ſufficiently exact to determine the Longitude within any of the Degrees or Limits aforeſaid, the ſaid Commiſſioners, or Two Thirds of them, ſhall certify the ſame, under their Hands and Seals, to the Commiſſioners of the Navy for the Time being, together with the Name or Names of the Perſon or Perſons who ſhall be the Author or Authors of ſuch Method or Methods; and upon the Receipt of ſuch Certificate, the ſaid Commiſſioners of the Navy are hereby authorized and required to make out a Bill or Bills upon the Treaſurer of the Navy for the reſpective Sum or Sums of Money to which the Author or Authors of ſuch Propoſal, his or their Executors, Adminiſtrators, or Aſſigns, ſhall be intitled by virtue of this Act; which Sum or Sums the ſaid Treaſurer is hereby required to pay to the ſaid Author or Authors, their Executors, Adminiſtrators, or Aſſigns accordingly, out of any Money that may be in his Hands unapplied to the Uſe of the Navy, according to the true Intent and Meaning of this Act.

EXTRACT, &c.

And be it further Enacted, by the Authority aforeſaid, That the ſaid Commiſſioners for the Diſcovery of Longitude at Sea, or any Five or more of them, ſhall have full Power and Authority to hear and receive any Propoſal or Propoſals that ſhall be made to them for diſcovering the ſaid Longitude, or for making any other uſeful Improvement in Navigation; and in caſe the ſaid Commiſſioners, or any Five or more of them, ſhall be ſo far ſatisfied of the Probability of any ſuch Diſcovery or Improvement as to think it proper to cauſe Experiments to be made thereof, they ſhall certify the ſame, together with the Names of the Author or Authors of ſuch Propoſal or Propoſals, under their Hands and Seals, to the Commiſſioners of the Navy, who are hereby authorized and required to make out a Bill or Bills upon the Treaſurer of the Navy for any Sum or Sums of Money as the ſaid Commiſſioners for the Diſcovery of Longitude at Sea, or any Five or more of them, ſhall think neceſſary for making ſuch Experiments; which Sum or Sums the Treaſurer of the Navy is hereby required to pay immediately to ſuch Perſon or Perſons as ſhall be appointed by the ſaid Commiſſioners to make thoſe Experiments out of any Money which ſhall be in his the ſaid Treaſurer's Hands unapplied as aforeſaid.

And be it further Enacted, by the Authority aforeſaid, That if any Perſon or Perſons ſhall make any Diſcovery for finding the Longitude at Sea, which, though not of ſo great Uſe as to be intitled to any of the great Rewards above ſpecified, ſhall nevertheleſs be adjudged by the ſaid Commiſſioners for the Diſcovery of Longitude at Sea, or the major Part of them, to be of conſiderable Uſe to the Public, or ſhall make any other Diſcovery or Diſcoveries, Improvement or Improvements, uſeful to Navigation; then, and in ſuch Caſe, ſuch Perſon or Perſons, his or their Executors, Adminiſtrators, or Aſſigns, ſhall, from time to time, have and receive ſuch leſs Reward or Sum or Sums of Money as the ſaid Commiſſioners, or the major Part of them, ſhall think reaſonable; and certify accordingly, under their Hands and Seals, to the Commiſſioners of the Navy,

Navy, who are hereby authorized and required to make out a Bill or Bills upon the Treaſurer of the Navy for any ſuch Sum or Sums of Money, which the ſaid Treaſurer is hereby authorized and required to pay immediately to ſuch Perſon or Perſons, his or their Executors, Adminiſtrators, or Aſſigns, out of any Money that ſhall be in his the ſaid Treaſurer's Hands unapplied as aforeſaid.

Provided alſo, and it is hereby further Enacted, That in caſe any Perſon or Perſons who ſhall and may have received any Sum or Sums of Money, by virtue of this Act, as a Reward for any Method of diſcovering the Longitude at Sea, ſhall afterwards become intitled to any of the greater Rewards appointed by this Act, for or on account of the ſame Method; that then, and in ſuch Caſe, ſuch Sum or Sums of Money as they ſhall or may have received as aforeſaid ſhall be conſidered as Part of ſuch greater Reward, and deducted therefrom accordingly; and that no Perſon ſhall receive more in the Whole for any One Method for diſcovering the Longitude at Sea than the greateſt Reward appointed for ſuch Method by this Act.

By the COMMISSIONERS appointed by Acts of Parliament for the Diſcovery of the Longitude at Sea; and for examining, trying, and judging of all Propoſals, Experiments, and Improvements relating to the ſame.

WHEREAS we have employed proper Perſons to compute Nautical Almanacs and Aſtronomical Ephemerides for the Years 1781, 1782, 1783, 1784, 1785, and 1786, which will greatly contribute to make the Lunar Tables conſtructed by the late Profeſſor MAYER of *Gottingen* (which you have already printed with our Authority) more generally uſeful; and whereas we think fit to employ you to print the ſaid Nautical Almanacs and Aſtronomical Ephemerides: We do therefore, in purſuance of the Power veſted in us by Act of Parliament, hereby licenſe, authorize, and impower you to cauſe the ſame to be printed, together with ſuch other uſeful Tables for facilitating the Method of diſcovering the Longitude at Sea, as ſhall have been conſtructed under our Direction, and will be delivered to you by the Reverend Dr. NEVIL MASKELYNE, his Majeſty's Aſtronomer Royal at *Greenwich*; and for ſo doing this ſhall be your ſufficient Warrant. Given under our Hands and Seals the 6th Day of *March* 1779.

SANDWICH (L.S.)
FL. NORTON (L.S.)
T. FRANKLAND (L.S.)
C. HARDY (L.S.)
T. PYE (L.S.)
G. B. RODNEY (L.S.)
JOS BANKS (L.S.)
N. MASKELYNE (L.S.)
T. HORNSBY (L.S.)
J. SMITH (L.S.)
E. WARING (L.S.)
A. SHEPHERD (L.S.)
J. MARRIOTT (L.S.)
GREY COOPER (L.S.)
J. ROBINSON (L.S.)
P. STEPHENS (L.S.)
J. SMITH (L.S.)

To Mr. WILLIAM
RICHARDSON,
Printer in *Saliſbury
court, Fleet-ſtreet.*

By Command of the Commiſſioners,
JOHN IBBETSON, Secretary.

By the COMMISSIONERS appointed by Acts of Parliament for the Diſcovery of the Longitude at Sea; and for examining, trying, and judging of all Propoſals, Experiments, and Improvements relating to the ſame.

WHEREAS we think fit to employ you to publiſh and vend, and to cauſe to be publiſhed and vended, the Nautical Almanacs and Aſtronomical Ephemerides for the Years 1781, 1782, 1783, 1784, 1785, and 1786, together with other uſeful Tables (conſtructed under our Direction) for facilitating the Method of diſcovering the Longitude at Sea, which will be printed by Mr. WILLIAM RICHARDSON of *Saliſbury-court, Fleet-ſtreet:* We do therefore, in purſuance of the Power veſted in us by Act of Parliament, hereby licenſe, authorize, and impower you to publiſh and vend, and to cauſe to be publiſhed and vended, the ſaid Nautical Almanacs and Aſtronomical Ephemerides, together with other uſeful Tables abovementioned. For which this ſhall be your ſufficient Warrant. Given under our Hands and Seals this 6th Day of *March* 1779.

SANDWICH (L.S.)
FL. NORTON (L.S.)
T. FRANKLAND (L.S.)
C. HARDY (L.S.)
T. PYE (L.S.)
G. B. RODNEY (L.S.)
JOS. BANKS (L.S.)
N. MASKELYNE (L.S.)
T. HORNSBY (L.S.)
J. SMITH (L.S.)
E. WARING (L.S.)
A. SHEPHERD (L.S.)
J. MARRIOTT (L.S.)
GREY COOPER (L.S.)
J. ROBINSON (L.S.)
PH. STEPHENS (L.S.)
J. SMITH (L.S.)

To Mr. JOHN NOURSE,
Bookſeller in the *Strand.*

By Command of the Commiſſioners,
JOHN IBBETSON, Secretary.

☞ A Licence was alſo granted at the ſame Time, to the like Effect, to Meſſ. JOHN MOUNT and THOMAS PAGE, Stationers on *Tower-hill.*

PREFACE.

THE Commiſſioners of Longitude, in purſuance of the Powers veſted in them by Act of Parliament, preſent the Public with the NAUTICAL ALMANAC and ASTRONOMICAL EPHEMERIS for the Year 1782, being the Sixteenth Impreſſion, to be continued annually; a Work which muſt greatly contribute to the Improvement of Aſtronomy, Geography, and Navigation. This EPHEMERIS contains every Thing eſſential to general Uſe that is to be found in any Ephemeris hitherto publiſhed, with many other uſeful and intereſting Particulars never yet offered to the Public in any Work of this Kind. The Tables of the Moon had been brought by the late Profeſſor MAYER of Gottingen to a ſufficient Exactneſs to determine the Longitude at Sea, within a Degree, as appeared by the Trials of ſeveral Perſons who made Uſe of them. The Difficulty and Length of the neceſſary Calculations ſeemed the only Obſtacles to hinder them from becoming of general Uſe: To remove which this EPHEMERIS was made; the Mariner being hereby relieved from the Neceſſity of calculating the Moon's Place from the Tables, and afterwards computing the Diſtance to Seconds by Logarithms, which are the principal and only very delicate Part of the Calculus; ſo that the finding the Longitude by the Help of the EPHEMERIS is now in a Manner reduced to the Computation of the Time, an Operation

ration equal to that of an Azimuth, and the Correction of the Diſtance on account of Refraction and Parallax, which is alſo rendered very eaſy by either of the Two Methods invented by Mr. LYONS and Mr. DUNTHORNE, and publiſhed among the Tables requiſite to be uſed with the EPHEMERIS; or by either of the Two Methods annexed to the EPHEMERIS of 1772, being both Improvements of the Method which I formerly publiſhed in the BRITISH MARINER'S GUIDE and PHILOSOPHICAL TRANSACTIONS, the Firſt by myſelf, and the Second by Mr. GEORGE WITCHELL; but ſtill more ſo by the GENERAL TABLES for correcting the apparent Diſtance of the Moon and a Star or the Sun from the Effects of Refraction and Parallax, computed at great Expence by Order of the Commiſſioners of Longitude, and publiſhed under the Care of Dr. SHEPHERD, Plumian Profeſſor of Aſtronomy and experimental Philoſophy at CAMBRIDGE, in 1772.

By Deſire of the Commiſſioners of Longitude, I drew up the Explanation and Uſe of the Articles contained in the EPHEMERIS, and the Inſtructions, with Examples, for finding the Longitude at Sea by the Help of the ſame. I alſo collected and calculated the Sixteen Firſt Pages of Tables requiſite to be uſed with the EPHEMERIS, and computed the Table of proportional Logarithms, which ſeemed to me abſolutely neceſſary to clear this Method of any remaining Difficulty; and added Explanations of all the Tables, and a Correction, p. 49 and 50, which may be applied by the Curious to the Effect of Refraction on the Moon's Diſtance from a Star, found by Mr. LYONS, or any other Method, on account of the Barometer and Thermometer.

PREFACE.

All the Calculations of the EPHEMERIS relating to the Sun were made from Mr. MAYER's laſt manuſcript Tables, received by the Board of Longitude after his Deceaſe, which have been printed under my Inſpection, and publiſhed in 1770; but the Calculations of the Moon were made in this EPHEMERIS, for the ſixth time, from new Tables, improved from MAYER's Tables, compoſed by Mr. CHARLES MASON, under my Direction, from Calculations made by Order of the Board of Longitude, upon the Series of lunar Obſervations made by the late Dr. BRADLEY, and publiſhed in the Nautical Almanac of 1774. In theſe new Tables, the Epoch of the Moon's mean Longitude is 1″ leſs, that of the Apogee is 56″ leſs, and that of the Aſcending Node 45″ more, than in MAYER's printed Tables, and the Equations are calculated to Tenths of a Second. Moreover, One new Equation is introduced, whoſe Argument is the mean Diſtance of the Moon from the Sun's Apogee, and Maximum 16″,4. Theſe new Tables, when compared with the above-mentioned Series of Obſervations, a proper Allowance being made for the unavoidable Error of Obſervation, ſeem to give always the Moon's Longitude in the Heavens correctly within 45 Seconds of a Degree; which greateſt Error, added to a poſſible Error of One Minute in taking the Moon's Diſtance from the Sun or a Star at Sea, will at a Medium only produce an Error of 50 Minutes of Longitude.

The Calculations of the Planets, and of the Eclipſes of Jupiter's Satellites were calculated from the Tables of Mr. WARGENTIN, annexed to M. DE LA LANDE's Aſtronomy, excepting the Eclipſes

Eclipſes of Jupiter's Second Satellite, which were inſerted in this EPHEMERIS for the ſecond time from new Tables tranſmitted to me from their learned Author Mr, WARGENTIN, Secretary to the Royal Academy of Sciences at STOCKHOLM, and publiſhed at the End of the Nautical Almanac of 1779.

All the Articles of the EPHEMERIS were computed by Two ſeparate Perſons, and examined by a Third, except the Moon's Longitude, Latitude, Right Aſcenſion, Declination, Semidiameter, and Parallax, which, for Noon, were computed by One Perſon, and for Midnight by another, and the Truth of theſe Calculations aſcertained by means of Differences, which, for the Moon's Longitude, were carried as far as the Fourth Order.

NEVIL MASKELYNE,
ASTRONOMER ROYAL.

GREENWICH,
September 23d,
1779.

EXPLANATION of the Characters uſed in the EPHEMERIS.

The PLANETS, &c.

☉ The Sun.
☾ The Moon.
☿ Mercury.
♀ Venus.

♂ Mars.
♃ Jupiter
♄ Saturn.

☊ The Moon's, or any other Planet's Aſcending Node.
☋ The Deſcending Node.
☌ Conjunction, or Planets ſituated in the ſame Longitude.
☍ Oppoſition, or Planets ſituated in oppoſite Longitudes, or differing 6 Signs from each other.

Signs of the Zodiac.

S.
0. ♈ Aries.
1. ♉ Taurus.
2. ♊ Gemini.
3. ♋ Cancer.
4. ♌ Leo.
5. ♍ Virgo.

S.
6. ♎ Libra.
7. ♏ Scorpio.
8. ♐ Sagittarius.
9. ♑ Capricornus.
10. ♒ Aquarius.
11. ♓ Piſces.

ECLIPSES for the YEAR 1782.

March 28. ☽ eclipſed, inviſible: H. M.
Beginning — — — 18. 57
Middle — — — 20. 18
End — — — — 21. 39
Digits eclipſed 7°. 42′. on ☽'s South Limb.

April 12. ☉ eclipſed, partly viſible: H. M.
Begins at — — — 6. 13
☉ ſets at — — — — 6. 49
☽ makes the Firſt Impreſſion on the Solar Diſc at 127°¼ from ☉'s Zenith to the Right Hand.

Sept. 21. ☽ eclipſed, inviſible: H. M.
Beginning — — — 1. 19½
Middle — — — 2. 23¾
End — — — 3. 28
Digits eclipſed 3°. 42′. on ☽'s North Limb.

Oct. 6. ☉ eclipſed, inviſible: ☌ at 13^{h}. 0′. in Long. 6^{s}. 13°. 52′. ☽'s Lat. 36′¾ South. ☉ will be centrally eclipſed on the Meridian at 13^{h}. 29′½ in Long. 157°. 42′ Eaſt, and Lat. 49°. 30′ South.

OBLIQUITY, &c.

1782.	Obliquity of the Ecliptic. D. M. S.	Equat. of Equin. Points. S.
Jan. 1.	23. 28. 12,1	— 6,5
Apr. 1.	23. 28. 12,3	— 5,1
July 1.	23. 28. 12,4	— 3,6
Oct. 1.	23. 28. 12,4	— 2,1
Dec. 31.	23. 28. 12,3	— 0,6

Errata of the NAUTICAL ALMANAC of 1780.

In the Page of Eclipſes, and Eclipſe of ☽, May 17, for H. M. S. read D. H. M.

Digits eclipſed, for 11′. 30″. read 11°. 30′.

Add Oct. 27th ☉ eclipſed, inviſible:

☌ at 5^h. 25′. 49″. in 7^s. 4°. 55′. ☽'s Lat. 49′ North. ☉ will be centrally eclipſed on the Meridian in Latitude 59°. 53′ North, and Long. 73°. 24′ Weſt. The Eclipſe will be central and total to ſeveral Parts of North America, towards Quebec, Boſton, &c. The Beginning will be viſible to the moſt weſtern Parts of Europe, as Cadiz, Liſbon, Dublin, &c. being a few Minutes before the Sun-ſet.

Page 15. The Eclipſe of 1ſt Sat. on 6th Day is not viſible, and that on the 8th is. The Eclipſe of 2d Sat. 16th Day is not viſible.

Page 16. Add ♄ □ ☉ 26th Day at 19 H.

Page 17. ☽'s Lat. at Noon 23d Day is 2°. 58′. 21″.

Page 19. The 29th Day at Noon ☽'s Semidiameter; for 14′. 24″. read 14′. 54″.

Page 20. The 26th Day at 6^h. for 95°. 52′. 4″. read 93°. 52′. 4″.

Page 27. The Eclipſe of 1ſt Sat. 27th Day is not viſible, and inf. ☌ of 4th Sat. the 17th Day is viſible.

Page 28. The ☌ of ☿ is ſup. and not inf.

Page 49. For ☽ eclipſed 18th Day, read 17th Day.

Page 51. Sup. ☌ 4th Sat. is viſible.

Page 63. Em. of 2d Sat. 16th Day and Im. 23d Day are not viſible.

Page 99. Em. of 1ſt Sat. 13th Day and of 2d Sat. 20th Day are not viſible.

I. JANUARY 1782.

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	Tu.	*Circumciſion.*
2	W.	
3	Th.	
4	F.	
5	Sa.	
6	*Su.*	*2d Sunday after Chriſtmas.*
7	M.	*[Epiphany.*
8	Tu.	Lucian.
9	W.	
10	Th.	
11	F.	
12	Sa.	
13	*Su.*	*1ſt Su. after Epiph.* Hil.
14	M.	Oxf. T. beg. [Cam. T. beg.
15	Tu.	
16	W.	
17	Th.	
18	F.	*Q. Charlotte's Birth-day*
19	Sa.	*[kept.* Priſca.
20	*Su.*	*2d Su. after Epiph.* Fabian.
21	M.	Agnes. [In 8 d. of S. H. 1 r.
22	Tu.	Vincent.
23	W.	Hilary Term begins.
24	Th.	
25	F.	*Converſion of St. Paul.*
26	Sa.	
27	*Su.*	*Septuageſ. Su. Pr. Aug. Fr.*
28	M.	*[born.* In 15 d. of S. H. 2 r.
29	Tu.	
30	W.	*K. Charles* I. *martyr.*
31	Th.	

Phaſes of the Moon.

	D. H. M.
Laſt Quarter —	6. 10. 39
New Moon —	13. 6. 40
Firſt Quarter —	21. 0. 45
Full Moon —	28. 20. 46

Other Phenomena.

D.
1. ☿ ♄ diff. Lat. 62′.
4. ☾ σ ♌ 4ʰ. 46′.
5. ☾ η ♍ 8ʰ. 45′.
6. ☾ θ ♍ 7ʰ. 47′.
8. ☾ ι ♎ 15ʰ. 23′.
9. ☾ δ ♏ 10ʰ. 48′.
☾ σ ♏ 19ʰ. 34′.
☾ α ♏ 22ʰ. 51′.
♀ λ ♒ diff. Lat. 2′.
10. ☾ 43 Ophiu. 21ʰ. 21′.
14. ☾ ξ ♑ 23ʰ. 49′.
16. ☾ 1 ψ ♒ 22ʰ. 43′.
17. ☾ 2 ψ ♒ 1ʰ. 9′.
19. ☉ enters ♒ 7ʰ. 52′.
☾ ♂ 2ʰ. 50′.
☾ ζ ♓ 18ʰ. 30′.
22. ☾ δ ♈ Im. 10ʰ. 24′.
* 13′ S. of ☽'s cent.
Em. 10ʰ. 56′. * 13′½
South.
25. ☾ β ♉ 1ʰ. 22′.
27. ☾ ι ♊ 2ʰ. 24′.
☾ 2 ψ ♋ 20ʰ. 14′.
29. ☾ η ♌ 23ʰ. 17′.
31. ☾ σ ♌ 11ʰ. 0′.

JANUARY 1782.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. South.	Equat. of Time. Add.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	Tu.	9. 11. 19. 15	18. 49. 14,9	22.59.13	4. 14,8	28,0
2	W.	9. 12. 20. 25	18. 53. 39,5	22.53.48	4. 42,8	27,6
3	Th.	9. 13. 21. 35	18. 58. 3,8	22.47.55	5. 10,4	27,3
4	F.	9. 14. 22. 45	19. 2. 27,7	22.41.35	5. 37,7	26,9
5	Sa.	9. 15. 23. 55	19. 6. 51,2	22.34.48	6. 4,6	26,4
6	*Su.*	9. 16. 25. 5	19. 11. 14,2	22.27.33	6. 31,0	26,0
7	M.	9. 17. 26. 16	19. 15. 36,8	22.19.53	6. 57,0	25,4
8	Tu.	9. 18. 27. 26	19. 19. 58,9	22.11.48	7. 22,4	24,9
9	W.	9. 19. 28. 36	19. 24. 20,4	22. 3.14	7. 47,3	24,3
10	Th.	9. 20. 29. 47	19. 28. 41,4	21.54.15	8. 11,6	23,8
11	F.	9. 21. 30. 57	19. 33. 1,8	21.44.51	8. 35,4	23,1
12	Sa.	9. 22. 32. 6	19. 37. 21,5	21.35. 2	8. 58,5	22,5
13	*Su.*	9. 23. 33. 15	19. 41. 40,6	21.24.47	9. 21,0	21,9
14	M.	9. 24. 34. 24	19. 45. 59,2	21.14. 7	9. 43,0	21,4
15	Tu.	9. 25. 35. 33	19. 50. 17,1	21. 3. 3	10. 4,3	20,7
16	W.	9. 26. 36. 41	19. 54. 34,4	20.51.35	10. 25,0	19,8
17	Th.	9. 27. 37. 47	19. 58. 50,8	20.39.43	10. 44,8	19,1
18	F.	9. 28. 38. 52	20. 3. 6,4	20.27.28	11. 3,9	18,3
19	Sa.	9. 29. 39. 57	20. 7. 21,4	20.14.49	11. 22,2	17,6
20	*Su.*	10. 0. 41. 1	20. 11. 35,6	20. 1.48	11. 39,8	16,8
21	M.	10. 1. 42. 3	20. 15. 49,0	19 48.25	11. 56,6	16,0
22	Tu.	10. 2. 43. 4	20. 20. 1,6	19.34.39	12. 12,6	15,1
23	W.	10. 3. 44. 4	20. 24. 13,3	19.20.32	12. 27,7	14,3
24	Th.	10. 4. 45. 2	20. 28. 24,2	19. 6. 4	12. 42,0	13,5
25	F.	10. 5. 46. 0	20. 32. 34,3	18.51.15	12. 55,5	12,7
26	Sa.	10. 6. 46. 56	20. 36. 43,6	18.36. 5	13. 8,2	11,8
27	*Su.*	10. 7. 47. 51	20. 40. 52,0	18.20.35	13. 20,0	11,0
28	M.	10. 8. 48. 45	20. 44. 59,6	18. 4.46	13. 31,0	10,2
29	Tu.	10. 9. 49. 37	20. 49. 6,4	17.48.37	13. 41,2	9,4
30	W.	10. 10. 50. 29	20. 53. 12,4	17.32. 9	13. 50,6	8,6
31	Th.	10. 11. 51. 19	20. 57. 17,5	17.15.22	13. 59,2	

Days.	Semidiameter of the Sun.	Time of D° paſſing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Diſtance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	16. 19,2	1. 10,9	2. 32,9	9. 992632	0. 21. 20
7	16. 19,1	1. 10,5	2. 32,8	9. 992721	0. 21. 1
13	16. 18,8	1. 10,1	2. 32,8	9. 992883	0. 20. 42
19	16. 18,2	1. 9,5	2. 32,6	9. 993103	0. 20. 23
25	16. 17,5	1. 8,9	2. 32,3	9. 993390	0. 20. 4

Eclipſes of the SATELLITES of JUPITER.

I. Satellite Immerſions.

Days	H. M. S.
2	7. 57. 21
4	2. 24. 54
5	20. 52. 27
7	15. 20. 3
9	9. 47. 38
11	4. 15. 15
12	22. 42. 54
14	17*10. 35
16	11. 38. 17
18	6. 6. 2
20	0. 33. 50
21	19. 1. 39
23	13. 29. 31
25	7. 57. 27
27	2. 25. 23
28	20. 53. 20
30	15. 21. 25

II. Satellite. Immerſions.

Days	H. M. S.
2	8. 36. 57
5	21. 53. 30
9	11. 10. 10
13	0. 26. 53
16	13. 43. 42
20	3. 0. 40
23	16*17. 48
27	5. 35. 5
30	18. 52. 30

III. Satellite.

Days	H. M. S.
7	19. 15. 15 I
14	23. 9. 56 I
22	3. 5. 9 I
22	5. 21. 50 E
29	7. 1. 3 I
29	9. 18. 57 E

IV. Satellite.		Conj.
8	1. 45	Sup.
16	13. 34	Inf.
24	21. 53	Sup.

JANUARY 1782. IV.

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude-	Geocentric Latitude.	Declination.	Paſſage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M	D. M.	H. M.
	MERCURY. Sup. ☌ 31^{d}. $13^{h}\frac{1}{4}$.					
1	7. 13. 3	0. 20 N	8. 23. 54	0. 7 N	23. 12 S	23. 46
4	7. 21. 43	0. 44 S	8. 28. 17	0. 15 S	23. 42	22. 51
7	8. 0. 9	1. 45	9. 2. 45	0. 36	24. 2	22. 58
10	8. 8. 26	2. 43	9. 7. 17	0. 55	24. 11	23. 5
13	8. 16. 40	3. 37	9. 11. 55	1. 13	24. 8	23. 12
16	8. 24. 57	4. 26	9. 16. 37	1. 28	23. 53	23. 20
19	9. 3. 22	5. 11	9. 21. 23	1. 41	23. 26	23. 29
22	9. 12. 1	5. 50	9. 26. 15	1. 52	22. 45	23. 37
25	9. 21. 1	6. 22	10. 1. 13	1. 59	21. 51	23. 45
28	10. 0. 27	6. 45	10. 6. 17	2. 4	20. 43	23. 55
31	10. 10. 29	6. 58	10. 11. 27	2. 5	19. 22	0. 1
	VENUS. Greateſt Elong. 7^{d}.					
1	1. 23. 20	1. 14 S	10. 28. 19	1. 13 S	13. 12 S	3. 15
7	2. 2. 59	0. 41	11. 4. 36	0. 43	10. 30	3. 11
13	2. 12. 38	0. 7 S	11. 10. 36	0. 10 S	7. 45	3. 7
19	2. 22. 19	0. 27 N	11. 16. 19	0. 32 N	4. 54	3. 2
25	3. 2. 1	1. 1	11. 21. 41	1. 18	2. 6	2. 55
	MARS.					
1	1. 7. 17	0. 21 S	11. 26. 26	0. 22 S	1. 46 S	4. 59
7	1. 10. 43	0. 14	0. 0. 35	0. 15	0. 1 N	4. 47
13	1. 14. 6	0. 7	0. 4. 44	0. 8	1. 46	4. 36
19	1. 17. 27	0. 1 S	0. 8. 52	0. 1 S	3. 30	4. 25
25	1. 20. 46	0. 5 N	0. 13. 1	0. 5 N	5. 13	4. 15
	JUPITER.					
1	8. 10. 55	0. 37 N	8. 15. 32	0. 32 N	22. 9 S	22. 5
7	8. 11. 24	0. 36	8. 16. 48	0. 32	22. 17	21. 44
13	8. 11. 53	0. 36	8. 18. 2	0. 31	22. 24	21. 23
19	8. 12. 21	0. 35	8. 19. 14	0. 31	22. 31	21. 3
25	8. 12. 50	0. 35	8. 20. 24	0. 31	22. 36	20. 43
	SATURN.					
1	8. 23. 2	1. 12 N	8. 24. 38	1. 5 N	22. 17 S	22. 44
7	8. 23. 13	1. 12	8. 25. 19	1. 5	22. 18	22. 20
13	8. 23. 23	1. 12	8. 25. 59	1. 6	22. 18	21. 57
19	8. 23. 34	1. 11	8. 26. 39	1. 6	22. 19	21. 35
25	8. 23. 45	1. 11	8. 27. 15	1. 6	22. 20	21. 12

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
1	Tu.	4. 2. 25. 37	4. 9. 4. 23	4. 55. 32 N	4.47. 7 N
2	W.	4. 15. 45. 55	4. 22. 30. 6	4. 34. 40	4.18.21
3	Th.	4. 29. 16. 36	5. 6. 5. 23	3. 58. 16	3.34.39
4	F.	5. 12. 56. 14	5. 19. 49. 6	3. 7. 48	2.38. 4
5	Sa.	5. 26. 43. 49	6. 3. 40. 28	2. 5. 51	1.31.35
6	*Su.*	6. 10. 38. 53	6. 17. 39. 10	0. 55. 47 N	0.18.59 N
7	M.	6. 24. 41. 11	7. 1. 45. 0	0. 18. 16 S	0.55.22 S
8	Tu.	7. 8. 50. 21	7. 15. 57. 14	1. 31. 45	2. 6.47
9	W.	7. 23. 5. 19	8. 0. 14. 22	2. 39. 55	3.10.33
10	Th.	8. 7. 23. 54	8. 14. 33. 28	3. 38. 12	4. 2.22
11	F.	8. 21. 42. 26	8. 28. 50. 11	4. 22. 41	4.38.47
12	Sa.	9. 5. 56. 2	9. 12. 59. 16	4. 50. 30	4.57.40
13	*Su.*	9. 19. 59. 13	9. 26. 55. 14	5. 0. 18	4.58.25
14	M.	10. 3. 46. 47	10. 10. 33. 22	4. 52. 15	4.42. 0
15	Tu.	10. 17. 14. 41	10. 23. 50. 31	4. 27. 55	4.10.25
16	W.	11. 0. 20. 50	11. 6. 45. 39	3. 49. 52	3.26.37
17	Th.	11. 13. 5. 8	11. 19. 19. 34	3. 1. 5	2.33.40
18	F.	11. 25. 29. 25	0. 1. 35. 2	2. 4. 45	1.34.40
19	Sa.	0. 7. 37. 3	0. 13. 36. 8	1. 3. 47	0.32.26 S
20	*Su.*	0. 19. 32. 43	0. 25. 27. 41	0. 0. 55 S	0.30.29 N
21	M.	1. 1. 21. 42	1. 7. 15. 27	1. 1. 29 N	1.31.47
22	Tu.	1. 13. 9. 41	1. 19. 5. 2	2. 1. 9	2.29.16
23	W.	1. 25. 2. 11	2. 1. 1. 47	2. 55. 55	3.20.50
24	Th.	2. 7. 4. 28	2. 13. 10. 42	3. 43. 33	4. 4. 0
25	F.	2. 19. 20. 52	2. 25. 35. 31	4. 21. 48	4.36.42
26	Sa.	3. 1. 54. 46	3. 8. 18. 53	4. 48. 23	4.56.35
27	*Su.*	3. 14. 47. 52	3. 21. 21. 48	5. 1. 8	5. 1.43
28	M.	3. 28. 0. 28	4. 4. 43. 39	4. 58. 15	4.50.38
29	Tu.	4. 11. 31. 2	4. 18. 22. 16	4. 38. 51	4.22.55
30	W.	4. 25. 16. 49	5. 2. 14. 15	4. 2. 59	3.39.16
31	Th.	5. 9. 14. 2	5. 16. 15. 39	3. 12. 6	2.41.51

JANUARY 1782. VI.

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Paſsage over Merid. H. M.	☽'s Right Aſcen. at Noon. D. M.	☽'s Right Aſc. at Midn. D. M.	☽'s Declination at Noon. D. M.	☽'s Declination at Midn. D. M.
1	Tu.	19	14. 3	125. 56	132. 53	24. 26	21. 37 N
2	W.	20	14. 55	139. 41	146. 21	20. 30	18. 6
3	Th.	21	15. 44	152. 51	159. 13	15. 27	12. 37
4	F.	22	16. 30	165. 30	171. 41	9. 36	6. 28 N
5	Sa.	23	17. 17	177. 50	183. 59	3. 13 N	0. 4 S
6	*Su.*	24	18. 4	190. 9	196. 23	3. 22 S	6. 39
7	M.	25	18. 54	202. 45	209. 15	9. 51	12. 58
8	Tu.	26	19. 46	215. 56	222. 51	15. 54	18. 39
9	W.	27	20. 43	229. 58	237. 20	21. 8	23. 19
10	Th.	28	21. 45	244. 56	252. 43	25. 9	26. 35
11	F.	29	22. 47	260. 40	268. 41	27. 35	28. 6
12	Sa.	30	23. 46	276. 43	284. 40	28. 10	27. 46
13	*Su.*	1	☌	292. 27	300. 2	26. 56	25. 40
14	M.	2	0. 44	307. 21	314. 23	24. 3	22. 8
15	Tu.	3	1. 37	321. 8	327. 37	19. 56	17. 31
16	W.	4	2. 25	333. 49	339. 48	14. 57	12. 14
17	Th.	5	3. 8	345. 35	351. 12	9. 27	6. 35
18	F.	6	3. 49	356. 41	2. 5	3. 42 S	0. 49 S
19	Sa.	7	4. 29	7. 25	12. 44	2. 3 N	4. 53 N
20	*Su.*	8	5. 9	18. 2	23. 24	7. 38	10. 20
21	M.	9	5. 50	28. 50	34. 23	12. 55	15. 24
22	Tu.	10	6. 32	40. 4	45. 54	17. 44	19. 55
23	W.	11	7. 17	51. 55	58. 8	21. 53	23. 40
24	Th.	12	8. 6	64. 34	71. 12	25. 11	26. 27
25	F.	13	8. 59	78. 1	85. 2	27. 24	28. 0
26	Sa.	14	9. 54	92. 10	99. 24	28. 16	28. 9
27	*Su.*	15	10. 50	106. 41	113. 59	27. 40	26. 44
28	M.	16	11. 46	121. 12	128. 21	25. 27	23. 48
29	Tu.	17	12. 39	135. 22	142. 15	21. 48	19. 30
30	W.	18	13. 29	148. 59	155. 35	16. 55	14. 6
31	Th.	19	14. 18	162. 3	168. 25	11. 5	7. 55

JANUARY 1782.

Days of the Month.	Days of the Week.	Semid^{r}. ☽ at Noon.	Semid^{r}. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	Tu.	15. 34	15. 38	57. 8	57. 23	4894	4965
2	W.	15. 42	15. 45	57. 36	57. 50	4949	4931
3	Th.	15. 49	15. 52	58. 2	58. 15	4916	4900
4	F.	15. 56	15. 59	58. 28	58. 38	4883	4871
5	Sa.	16. 1	16. 4	58. 48	58. 59	4859	4845
6	*Su.*	16. 7	16. 9	59. 7	59. 15	4835	4826
7	M.	16. 11	16. 12	59. 22	59. 28	4817	4810
8	Tu.	16. 14	16. 15	59. 34	59. 37	4802	4799
9	W.	16. 15	16. 15	59. 38	59. 39	4798	4797
10	Th.	16. 15	16. 13	59. 37	59. 32	4799	4805
11	F.	16. 11	16. 9	59. 25	59. 16	4813	4824
12	Sa.	16. 6	16. 2	59. 5	58. 51	4838	4855
13	*Su.*	15. 58	15. 53	58. 35	58. 17	4875	4897
14	M.	15. 48	15. 42	57. 58	57. 38	4921	4946
15	Tu.	15. 37	15. 31	57. 17	56. 57	4972	4998
16	W.	15. 25	15. 19	56. 34	56. 13	5027	5054
17	Th.	15. 14	15. 9	55. 53	55. 35	5080	5103
18	F.	15. 4	15. 0	55. 18	55. 3	5125	5145
19	Sa.	14. 57	14. 54	54. 50	54. 40	5162	5175
20	*Su.*	14. 51	14. 50	54. 31	54. 26	5187	5194
21	M.	14. 49	14. 49	54. 23	54. 23	5198	5198
22	Tu.	14. 50	14. 51	54. 25	54. 30	5195	5189
23	W.	14. 53	14. 56	54. 37	54. 47	5179	5166
24	Th.	14. 59	15. 3	54. 59	55. 13	5150	5132
25	F.	15. 7	15. 12	55. 29	55. 46	5111	5089
26	Sa.	15. 17	15. 22	56. 5	56. 24	5064	5040
27	*Su.*	15. 27	15. 33	56. 44	57. 4	5014	4989
28	M.	15. 38	15. 44	57. 23	57. 43	4965	4940
29	Tu.	15. 49	15. 53	58. 1	58. 18	4917	4896
30	W.	15. 57	16. 1	58. 33	58. 45	4877	4863
31	Th.	16. 4	16. 7	58. 58	59. 8	4846	4834

Diſtances of ☽'s Center from Sun, and from Stars eaſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Spica ♍	78.36.6	76.57.6	75.17.55	73.38.32	71.58.58	70.19.14	68.39.18	66.59.11
2		65.18.54	63.38.25	61.57.45	60.16.56	58.35.56	56.54.47	55.13.29	53.33.1
3		51.50.24	50.8.36	48.26.40	46.44.35	45.2.20	43.19.56	41.37.24	39.54.44
4		38.11.55							
4	Antares.	84.3.20	82.20.12	80.36.55	78.53.31	77.9.58	75.26.17	73.42.28	71.58.31
5		70.14.25	68.30.10	66.45.48	65.1.17	63.16.39	61.31.54	59.47.1	58.2.1
6		56.16.53	54.31.38	52.46.15	51.0.44	49.15.6			
4	The Sun.	121.23.22	119.48.23	118.13.15	116.37.58	115.2.32	113.26.57	111.51.14	110.15.21
5		108.39.20	107.3.9	105.26.49	103.50.22	102.13.46	100.37.3	99.0.13	97.23.15
6		95.46.9	94.8.55	92.31.34	90.54.5	89.16.30	87.38.48	86.1.0	84.23.5
7		82.45.4	81.6.56	79.28.42	77.50.23	76.11.58	74.33.29	72.54.54	71.16.16
8		69.37.32	67.58.43	66.19.51	64.40.56	63.1.58	61.22.57	59.43.55	58.4.51
9		56.25.46	54.46.39	53.7.32	51.28.25	49.49.17	48.10.12	46.31.11	44.52.12
10		43.13.16	41.34.25	39.55.39	38.16.59	36.38.25			
15	α Arietis.	78.23.27	76.45.22	75.7.38	73.30.14	71.53.11	70.16.29	68.40.7	67.4.6
16		65.28.26	63.53.7	62.18.9	60.43.32	59.9.17	57.35.23	56.1.50	54.28.39
17		52.55.50	51.23.23	49.51.18	48.19.34	46.48.11	45.17.11	43.46.33	42.16.16
18		40.46.21							

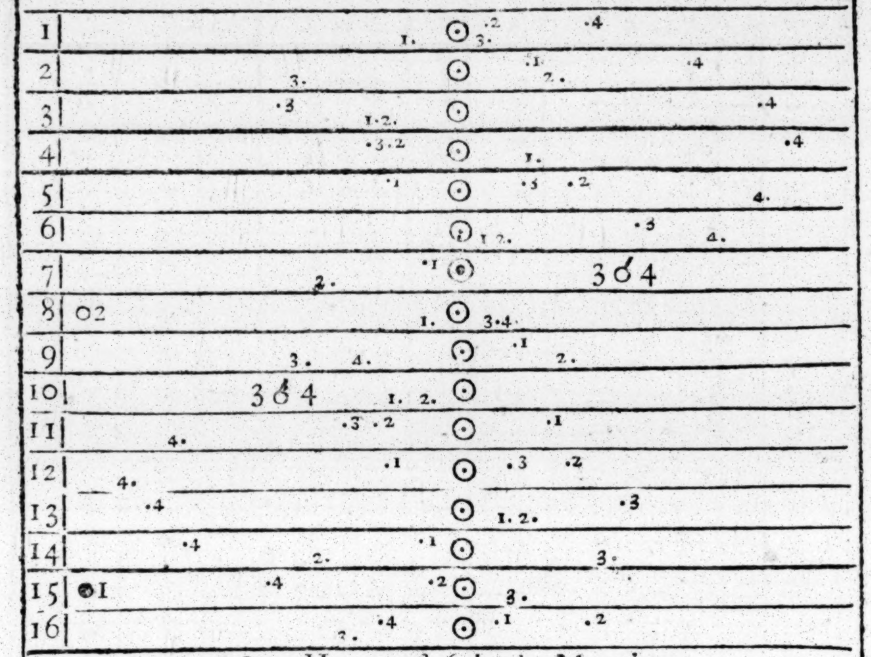
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M.. S.	D. M. S	D. M. S.	D. M. S.
18	Aldebaran.	71. 8. 51	69. 38. 10	68. 7. 45	66. 37. 34	65. 7. 39	63. 37. 58	62. 8. 32	60.39.19
19		59. 10. 21	57. 41. 36	56. 13. 3	54. 44. 45	53. 16. 39	51. 48. 47	50. 21. 8	48.53.42
20		47. 26. 27	45. 59. 23	44. 32. 32	43. 5. 53	41. 39. 27	40. 13. 14	38. 47. 14	37.21.27
21		35. 55. 53							
21	Pollux.	78. 48. 50	77. 20. 7	75. 51. 25	74. 22. 43	72. 54. 1	71. 25. 18	69. 56. 32	68.27.44
22		66. 58. 54	65. 30. 0	64. 1. 1	62. 31. 58	61. 2. 50	59. 33. 38	58. 4. 19	56.34.54
23		55. 5. 21	53. 35. 39	52. 5. 48	50. 35. 48	49. 5. 39	47. 35. 20	46. 4. 50	44.34. 8
24		43. 3. 15	41. 32. 9	40. 0. 52	38. 29. 21	36. 57. 39	35. 25. 42	33. 53. 32	32.21. 9
25		30. 48. 33							
25	Regulus.	67. 29. 26	65. 56. 36	64. 23. 30	62. 50. 8	61. 16. 31	59. 42. 38	58. 8. 29	56.34. 3
26		54. 59. 21	53. 24. 22	51. 49. 5	50. 13. 33	48. 37. 43	47. 1. 37	45. 25. 16	43.48.34
27		42. 11. 38	40. 34. 24	38. 56. 55	37. 19. 9	35. 41. 8	34. 2. 52	32. 24. 21	30.45.35
28		29. 6. 35							
28	Spica ♍	83. 0. 17	81. 20. 19	79. 40. 4	77. 59. 32	76. 18. 44	74. 37. 39	72. 56. 18	71.14.41
29		69. 32. 48	67. 50. 39	66. 8. 16	64. 25. 39	62. 42. 48	60. 59. 43	59. 16. 25	57.32.55
30		55. 49. 11	54. 5. 15	52. 21. 8	50. 36. 50	48. 52. 21	47. 7. 42	45. 22. 54	43.37.57
31		41. 52. 51	40. 7. 37	38. 22. 17	36. 36. 50	34. 51. 17	33. 5. 38	31. 19. 54	29.34. 6
F. 1		27. 48. 14							

Diſtances of ☽'s Center from Sun, and from Stars weſt of her.

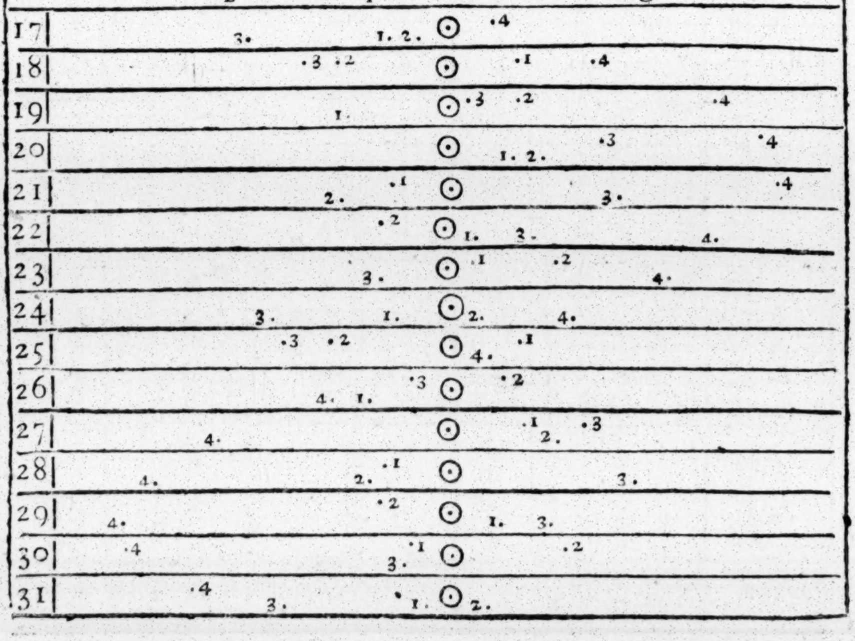
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Pollux.	12. 16. 15	13. 54. 33	15. 33. 10	17. 12. 4	18. 51. 14	20. 30. 40	22. 10. 21	23.50.16
2		25. 30. 25	27. 10. 45	28. 51. 17	30. 32. 1	32. 12. 57	33. 54. 3	35. 35. 19	37.16.46
3		38. 58. 24	40. 40. 12	42. 22. 11	44. 4. 19	45. 46. 37	47. 29. 4	49. 11. 40	50.54.25
4		52. 37. 20	54. 20. 24	56. 3. 37	57. 46. 59	59. 30. 30	61. 14. 8	62. 57. 55	64.41.50
5		66. 25. 54	68. 10. 7	69. 54. 27	71. 38. 56	73. 23. 33	75. 8. 17	76. 53. 9	78.38. 8
6		80. 23. 14							
6	Regulus.	43. 50. 33	45. 35. 26	47. 20. 26	49. 5. 35	50. 50. 51	52. 36. 15	54. 21. 47	56. 7.26
7		57. 53. 12	59. 39. 7	61. 25. 8	63. 11. 16	64. 57. 30	66. 43. 49	68. 30. 13	70.16.42
8		72. 3. 17	73. 49. 59	75. 36. 44	77. 23. 35	79. 10. 29	80. 57. 27	82. 44. 27	84.31.30
9		86. 18. 35							
9	Spica ♍	32. 15. 59	34. 3. 8	35. 50. 20	37. 37. 33	39. 24. 47	41. 12. 3	42. 59. 18	44.46.34
10		46. 33. 49	48. 21. 4	50. 8. 18	51. 55. 29	53. 42. 38	55. 29. 43	57. 16. 44	59. 3.40
11		60. 50. 32	62. 37. 18	64. 23. 58	66. 10. 30	67. 56. 56	69. 43. 13	71. 29. 22	73.15.21
12		75. 1. 11	76. 46. 50	78. 32. 18	80. 17. 34	82. 2. 39			
16	The Sun.					39. 45. 54	41. 12. 51	42. 39. 31	44. 5.55
17		45. 32. 3	46. 57. 54	48. 23. 30	49. 48. 53	51. 13. 59	52. 38. 51	54. 3. 29	55.27.52
18		56. 52. 1	58. 15. 55	59. 39. 36	61. 3. 3	62. 26. 18	63. 49. 20	65. 12. 12	66.34.52
19		67. 57. 21	69. 19. 40	70. 41. 50	72. 3. 50	73. 25. 41	74. 47. 22	76. 8. 56	77.30.23

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S	D. M S.	D. M. S.
20	The Sun.	78. 51. 42	80. 12. 54	81. 34. 3	82. 55. 8	84. 16. 10	85. 37. 6	86. 57. 59	88.18.50
21		89. 39. 39	91. 0. 26	92. 21. 13	93. 42. 0	95. 2. 47	96. 23. 35	97. 44. 26	99. 5.19
22		100. 26. 14	101. 47. 13	103. 8. 16	104. 29. 22	105. 50. 32	107. 11. 49	108. 33. 14	109.54.44
23		111. 16. 22	112. 38. 7	114. 0. 1	115. 22. 4	116. 44. 16	118. 6. 38	119. 29. 11	120.51.55
24		122. 14. 50							
21	α Pegaſi.	44. 3. 51	45. 19. 13	46. 35. 10	47. 51. 39	49. 8. 41	50. 26. 14	51. 44. 13	53. 2.40
22		54. 21. 33	55. 40. 49	57. 0. 28	58. 20. 28	59. 40. 46			
22	α Arietis.					16. 11. 54	17. 28. 39	18. 46. 56	20. 6.36
23		21. 27. 42	22. 49. 56	24. 13. 10	25. 37. 20	27. 2. 24	28. 27. 58	29. 54. 9	31.20.56
24		32. 48. 15	34. 16. 0	35. 44. 11	37. 12. 49	38. 41. 53	40. 11. 18	41. 41. 7	43.11.19
25		44. 41. 55	46. 12. 54	47. 44. 14	49. 15. 56	50. 48. 0	52. 20. 23	53. 53. 5	55.26.10
26		56. 59. 35	58. 33. 21	60. 7. 27	61. 41. 53	63. 16. 40	64. 51. 46	66. 27. 12	68. 2.57
27		69. 39. 1							
27	Aldeba-ran.	39. 25. 19	40. 59. 57	42. 35. 4	44. 10. 37	45. 46. 37	47. 23. 3	48. 59. 53	50.37. 7
28		52. 14. 45	53. 52. 45	55. 31. 6	57. 9. 48	58. 48. 51	60. 28. 14	62. 7. 57	63.47.58
29		65. 28. 18	67. 8. 55	68. 49. 50	70. 31. 0	72. 12. 27	73. 54. 9	75. 36. 5	77.18.15
30		79. 0. 39							
30	Pollux.	34. 59. 55	36. 43. 48	38. 27. 53	40. 12. 10	41. 56. 38	43. 41. 17	45. 26. 6	47.11. 5
31		48. 56. 13	50. 41. 30	52. 26. 54	54. 12. 26	55. 58. 6	57. 43. 52	59. 29. 43	61.15.40
F. 1		63. 1. 42							

Configurations of the SATELLITES of JUPITER at 7 o' Clock in the Morning.



at ½ an Hour past 6 in the Morning.



FEBRUARY 1782.

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	F.	
2	Sa.	*Purification of V. Mary.*
3	*Su.*	*Sexageſima-Sund.* Blaſe.
4	M.	Hilary 3 return.
5	Tu.	Agatha.
6	W.	
7	Th.	
8	F.	
9	Sa.	Hilary 4 return.
10	*Su.*	*Quinquageſima-Sunday.*
11	M.	
12	Tu.	Hil. Ter. ends. *Shrove-Tu.*
13	W.	*Aſh-Wedneſday.*
14	Th.	Valentine.
15	F.	
16	Sa.	
17	*Su.*	*1ſt Sunday in Lent.*
18	M.	
19	Tu.	
20	W.	*Ember-Week.*
21	Th.	
22	F.	
23	Sa.	
24	*Su.*	*2d S. in Lent. St Matthias.* *[Pr. Ad. Fred. born.*
25	M.	
26	Tu.	
27	W.	
28	Th.	

Phaſes of the Moon.

	D.	H.	M.
Laſt Quarter	4.	18.	38
New Moon	11.	20.	48
Firſt Quarter	19.	22.	18
Full Moon	27.	9.	30

Other Phenomena.

D.

1. ☾ η ♍ 14^{h}. 23′.
4. ☾ 1 ad ι ♎ 20^{h}. 47′.
6. ☾ σ ♏ 1^{h}. 27′.
6. ☾ α ♏ 4^{h}. 49′.
8. ☾ τ ♐ 17^{h}. 29′.
11. ☾ ε ♑ 8^{h}. 28′.
13. ☾ 1 ψ ♒ 9^{h}. 2′.
16. ☾ ζ ♓ 2^{h}. 47′.
17. ☉ enters ♓ at 22^{h}.43′.
18. ☾ δ ♈ 17^{h}. 34′.
19. ☾ η Pleiad. 12^{h}. 7′.
21. ☾ β ♉ 9^{h}. 11′.
24. ☾ 2 ad ψ ♋ 6^{h}. 26′.
26. ☾ η ♌ 8^{h}. 47′.

FEBRUARY 1782.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. South.	Equat. of Time Add.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	F.	10. 12. 52. 8	21. 1. 21,8	16. 58. 18	14. 6,9	6,9
2	Sa.	10. 13. 52. 56	21. 5. 25,3	16. 40. 55	14.13,8	6,2
3	*Su.*	10. 14. 53. 44	21. 9. 28,0	16. 23. 15	14.20,0	5,3
4	M.	10. 15. 54. 31	21. 13. 30,0	16. 5. 18	14.25,3	4,6
5	Tu.	10. 16. 55. 16	21. 17. 31,1	15. 47. 4	14.29,9	3,7
6	W.	10. 17. 56. 1	21. 21. 31,4	15. 28. 34	14.33,6	3,0
7	Th.	10. 18. 56. 45	21. 25. 31,0	15. 9. 48	14.36,6	2,2
8	F.	10. 19. 57. 27	21. 29. 29,7	14. 50. 47	14.38,8	1,4
9	Sa.	10. 20. 58. 8	21. 33. 27,6	14. 31. 31	14.40,2	0,6
10	*Su.*	10. 21. 58. 49	21. 37. 24,9	14. 12. 0	14.40,8	0,1
11	M.	10. 22. 59. 28	21. 41. 21,3	13. 52. 15	14.40,7	1,0
12	Tu.	10. 24. 0. 5	21. 45. 16,9	13. 32. 17	14.39,7	1,6
13	W.	10. 25. 0. 41	21. 49. 11,8	13. 12. 5	14.38,1	2,3
14	Th.	10. 26. 1. 16	21. 53. 6,0	12. 51. 40	14.35,8	3,2
15	F.	10. 27. 1. 48	21. 56. 59,4	12. 31. 3	14.32,6	3,9
16	Sa.	10. 28. 2. 18	22. 0. 52,0	12. 10. 15	14.28,7	4,6
17	*Su.*	10. 29. 2. 47	22. 4. 43,9	11. 49. 14	14.24,1	5,4
18	M.	11. 0. 3. 14	22. 8. 35,1	11. 28. 3	14.18,7	6,0
19	Tu.	11. 1. 3. 39	22. 12. 25,6	11. 6. 41	14.12,7	6,8
20	W.	11. 2. 4. 2	22. 16. 15,4	10. 45. 8	14. 5,9	7,4
21	Th.	11. 3. 4. 22	22. 20. 4,5	10. 23. 27	13.58,5	8,1
22	F.	11. 4. 4. 41	22. 23. 53,0	10. 1. 35	13.50,4	8,7
23	Sa.	11. 5. 4. 57	22. 27. 40,8	9. 39. 35	13.41,7	9,3
24	*Su.*	11. 6. 5. 12	22. 31. 28,1	9. 17. 26	13.32,4	9,9
25	M.	11. 7. 5. 24	22. 35. 14,6	8. 55. 9	13.22,5	10,6
26	Tu.	11. 8. 5. 35	22. 39. 0,6	8. 32. 44	13.11,9	11,1
27	W.	11. 9. 5. 44	22. 42. 46,0	8. 10. 11	13. 0,8	11,6
28	Th.	11. 10. 5. 51	22. 46. 30,9	7. 47. 31	12.49,2	

Days.	Semidiameter of the Sun.	Time of D° paſſing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Diſtance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	16. 16,5	1. 8,1	2. 32,1	9,993838	0. 19. 42
7	16. 15,5	1. 7,4	2. 31,8	9,994317	0. 19. 23
13	16. 14,3	1. 6,7	2. 31,5	9,994842	0. 19. 3
19	16. 13,0	1. 6,1	2. 31,0	9,995401	0. 18. 44
25	16. 11,6	1. 5,5	2. 30,5	9,996007	0. 18. 25

ECLIPSES of the SATELLITES of JUPITER.

I. Satellite.
Immerſions.

Days	H. M. S.
1	9. 49. 24
3	4. 17. 28
4	22. 45. 35
*6	17. 13. 47
8	11. 42. 2
10	6. 10. 16
12	0. 38. 34
13	19. 6. 56
15	13. 35. 16
17	8. 3. 40
19	2. 32. 6
20	21. 0. 36
22	15. 29. 7
24	9. 57. 41
26	4. 26. 17
27	22. 54. 56

II. Satellite.
Immerſions.

Days	H. M. S.
3	8. 10. 0
6	4. 27. 39
10	10. 45. 25
14	0. 3. 20
17	13. 21. 25
21	2. 39. 39
24	15. 57. 56
28	5. 16. 23

III. Satellite.

Days	H. M. S.	
5	10. 57. 27	I
5	13. 16. 40	E
12	14. 54. 36	I
*12	17. 15. 4	E
19	18. 52. 27	I
19	21. 14. 8	E
26	22. 50. 44	I
27	1. 13. 41	E

IV. Satellite. Conj.

2	9. 35	Inf.
10	17. 42	Sup.
19	5. 10	Inf.
27	12. 59	Sup.

FEBRUARY 1782. IV.

Days	Heliocentric Longitude. S. D. M.	Heliocentric Latitude. D. M.	Geocentric Longitude. S. D. M.	Geocentric Latitude. D. M.	Declination. D. M.	Paſſage over Merid. H. M.
			MERCURY.			
1	10. 13. 58	7. 0 S	10. 13. 12	2. 4 S	18. 51 S	0. 4
4	10. 25. 0	6. 54	10. 18. 30	1. 59	17. 11	0. 13
7	11. 6. 58	6. 32	10. 23. 55	1. 49	15. 17	0. 22
10	11. 20. 3	5. 48	10. 29. 24	1. 36	13. 11	0. 31
13	0. 4. 20	4. 39	11. 4. 53	1. 16	10. 54	0. 40
16	0. 20. 1	3. 4	11. 10. 20	0. 50	8. 28	0. 48
19	1. 7. 1	1. 5 S	11. 15. 38	0. 18 S	5. 57	0. 55
22	1. 25. 8	1. 8 N	11. 20. 32	0. 20 N	3. 28	1. 1
25	2. 13. 57	3. 19	11. 24. 48	1. 1	1. 8 S	1. 4
28	3. 2. 50	5. 8	11. 28. 14	1. 44	0. 52 N	1. 4
			VENUS.			
1	3. 13. 21	1. 37 N	11. 27. 20	2. 19 N	1. 3 N	2. 45
7	3. 23. 5	2. 7	0. 1. 31	3. 16	3. 37	2. 34
13	4. 2. 49	2. 31	0. 4. 54	4. 17	5. 54	2. 21
19	4. 12. 35	2. 52	0. 7. 23	5. 20	7. 51	2. 5
25	4. 22. 20	3. 8	0. 8. 39	6. 25	9. 20	1. 45
			MARS.			
1	1. 24. 36	0. 13 N	0. 17. 50	0. 12 N	7. 11 N	4. 4
7	1. 27. 50	0. 19	0. 21. 57	0. 17	8. 49	3. 55
13	2. 1. 3	0. 25	0. 26. 3	0. 22	10. 25	3. 47
19	2. 4. 14	0. 31	1. 0. 9	0. 27	11. 58	3. 39
25	2. 7. 22	0. 37	1. 4. 15	0. 31	13. 28	3. 32
			JUPITER.			
1	8. 13. 25	0. 34 N	8. 21. 44	0. 31 N	22. 41 S	20. 20
7	8. 13. 54	0. 33	8. 22. 47	0. 31	22. 46	20. 0
13	8. 14. 22	0. 33	8. 23. 46	0. 30	22. 49	19. 41
19	8. 14. 51	0. 32	8. 24. 42	0. 30	22. 51	19. 23
25	8. 15. 20	0. 32	8. 25. 33	0. 30	22. 53	19. 5
			SATURN.			
1	8. 23. 58	1. 10 N	8. 27. 56	1. 6 N	22. 21 S	20. 46
7	8. 24. 9	1. 10	8. 28. 29	1. 6	22. 21	20. 24
13	8. 24. 19	1. 9	8. 29. 0	1. 6	22. 22	20. 3
19	8. 24. 30	1. 9	8. 29. 27	1. 6	22. 22	19. 42
25	8. 24. 41	1. 9	8. 29. 53	1. 7	22. 21	19. 22

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D.M.S.
1	F.	5. 23. 18. 36	6. 0. 22. 30	2. 8. 58 N	1.33.59 N
2	Sa.	6. 7. 27. 0	6. 14. 31. 42	0. 57. 28 N	0.19.59 N
3	*Su.*	6. 21. 36. 20	6. 28. 40. 43	0. 17. 49 S	0.55 21 S
4	M.	7. 5. 44. 41	7. 12. 48. 7	1. 32. 0	2. 7.13
5	Tu.	7. 19. 50. 52	7. 26. 52. 50	2. 40. 25	3.11. 8
6	W.	8. 3. 53. 54	8. 10. 53. 56	3. 38. 52	4. 3.14
7	Th.	8. 17. 52. 46	8. 24. 50. 11	4. 23. 53	4.40.32
8	F.	9. 1. 45. 56	9. 8. 39. 45	4. 52. 59	5. 1. 7
9	Sa.	9. 15. 31. 21	9. 22. 20. 24	5. 4. 51	5. 4.13
10	*Su.*	9. 29. 6. 33	10. 5. 49. 31	4. 59. 18	4.50.15
11	M.	10. 12. 29. 0	10. 19. 4. 44	4. 37. 19	4.20.47
12	Tu.	10. 25. 36. 30	11. 2. 4. 11	4. 0. 57	3.38.11
13	W.	11. 8. 27. 41	11. 14. 47. 0	3. 12. 51	2.45.22
14	Th.	11. 21: 2. 12	11. 27. 13. 28	2. 16. 8	1.45.32
15	F.	0. 3. 1. 2	0. 9. 25. 11	1. 13. 58	0.41.49 S
16	Sa.	0. 15. 26. 17	0. 21. 24. 49	0. 9. 25 S	0.22.54 N
17	*Su.*	0. 27. 21. 18	1. 3. 16. 16	0. 54. 50 N	1.26. 3
18	M.	1. 9. 10. 19	1. 15. 4. 6	1. 56. 17	2.25.15
19	Tu.	1. 20. 58. 18	1. 26. 53. 33	2. 52. 42	3.18.23
20	W.	2. 2. 50. 30	2. 8. 49. 49	3. 42. 3	4. 3.27
21	Th.	2. 14. 52. 10	2. 20. 58. 11	4. 22. 19	4.38.25
22	F.	2. 27. 8. 26	3. 3. 23. 24	4. 51. 29	5. 1.16
23	Sa.	3. 9. 43. 31	3. 16. 9 10	5. 7. 32	5.10. 2
24	*Su.*	3. 22. 40. 36	3. 29. 17. 58	5. 8. 35	5. 3. 1
25	M.	4. 6. 1. 20	4. 12. 50. 33	4. 53. 12	4 39. 6
26	Tu.	4. 19. 45. 21	4. 26. 45. 23	4. 20. 44	3.58.14
27	W.	5. 3. 50. 10	5. 10. 59. 3	3. 31. 49	3. 1.48
28	Th.	5. 18. 11. 18	5. 25. 26. 16	2. 28. 36	1.52.48

FEBRUARY 1782.

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Paſsage over Merid.	☽'s Right Aſcen. at Noon.	☽'s Right Aſc. at Midn.	☽'s Declination at Noon.	☽'s Declination at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	F.	20	15. 6	174. 43	180. 58	4. 38 N	1. 17 N
2	Sa.	21	15. 54	187. 13	193. 30	2. 5 S	5. 26 S
3	*Su.*	22	16. 43	199. 51	206. 18	8. 42	11. 52
4	M.	23	17. 35	212. 54	219. 40	14. 54	17. 43
5	Tu.	24	18. 31	226. 37	233. 45	20. 18	22. 35
6	W.	25	19. 29	241. 8	248. 41	24. 32	26. 7
7	Th.	26	20. 30	256. 22	264. 10	27. 18	28. 2
8	F.	27	21. 30	272. 0	279. 48	28. 20	28. 12
9	Sa.	28	22. 28	287. 30	295. 3	27. 37	26. 37
10	*Su.*	29	23. 22	302. 24	309. 30	25. 14	23. 31
11	M.	1	☌	316. 21	322. 56	21. 31	19. 15
12	Tu.	2	0. 13	329. 17	335. 24	16. 47	14. 9
13	W.	3	0. 59	341. 19	347. 4	11. 23	8. 32
14	Th.	4	1. 41	352. 40	358. 9	5. 38 S	2. 42 S
15	F.	5	2. 21	3. 34	8. 56	0. 13 N	3. 6 N
16	Sa.	6	3. 1	14. 16	19. 38	5. 56	8. 43
17	*Su.*	7	3. 41	25. 3	30. 32	11. 24	13. 58
18	M.	8	4. 23	36. 8	41. 51	16. 24	18. 41
19	Tu.	9	5. 7	47. 43	53. 46	20. 48	22. 42
20	W.	10	5. 55	60. 0	66. 25	24. 23	25. 49
21	Th.	11	6. 46	73. 1	79. 49	26. 58	27. 48
22	F.	12	7. 40	86. 46	93. 50	28. 18	28. 27
23	Sa.	13	8. 36	101. 0	108. 13	28. 13	27. 36
24	*Su.*	14	9. 32	115. 26	122. 37	26. 36	25. 14
25	M.	15	10. 26	129. 43	136. 43	23. 31	21. 26
26	Tu.	16	11. 19	143. 36	150. 23	19. 2	16. 21
27	W.	17	12. 10	157. 3	163. 37	13. 25	10. 16
28	Th.	18	13. 0	170. 7	176. 33	6. 57	3. 32

Days of the Month	Days of the Week.	Semid^{r}. ☽ at Noon. M. S.	Semid^{r}. ☽ at Midnight. M. S.	Hor. Par. ☽ at Noon. M. S.	Hor. Par. ☽ at Midnight. M. S.	Proport. Logar. at Noon.	Proport Logar. at Midn.
1	F.	16. 9	16. 10	59. 15	59. 21	4826	4819
2	Sa.	16. 11	16. 12	59. 25	59. 27	4813	4811
3	*Su.*	16. 12	16. 12	59. 28	59. 27	4810	4811
4	M.	16. 12	16. 10	59. 26	59. 23	4812	4816
5	Tu.	16. 10	16. 8	59. 18	59. 12	4822	4830
6	W.	16. 6	16. 4	59. 6	58. 58	4837	4846
7	Th.	16. 2	15. 59	58. 50	58. 41	4856	4867
8	F.	15. 57	15. 54	58. 31	58. 19	4880	4895
9	Sa.	15. 50	15. 47	58. 7	57. 54	4910	4926
10	*Su.*	15. 43	15. 39	57. 40	57. 26	4943	4961
11	M.	15. 35	15. 30	57. 10	56. 54	4981	5002
12	Tu.	15. 26	15. 21	56. 38	56. 21	5022	5044
13	W.	15. 17	15. 13	56. 5	55. 49	5064	5085
14	Th.	15. 8	15. 4	55. 33	55. 18	5106	5125
15	F.	15. 1	14. 57	55. 5	54. 53	5142	5158
16	Sa.	14. 54	14. 52	54. 42	54. 33	5173	5185
17	*Su.*	14. 50	14. 49	54. 27	54. 23	5193	5198
18	M.	14. 49	14. 49	54. 21	54. 21	5201	5201
19	Tu.	14. 49	14. 51	54. 24	54. 29	5197	5190
20	W.	14. 53	14. 56	54. 37	54. 48	5179	5165
21	Th.	15. 0	15. 4	55. 2	55. 17	5146	5127
22	F.	15. 9	15. 14	55. 36	55. 55	5102	5077
23	Sa.	15. 20	15. 26	56. 17	56. 39	5049	5021
24	*Su.*	15. 33	15. 40	57. 4	57. 29	4989	4957
25	M.	15. 47	15. 53	57. 54	58. 18	4926	4896
26	Tu.	15. 59	16. 5	58. 41	59. 3	4867	4841
27	W.	16. 11	16. 16	59. 22	59. 40	4817	4795
28	Th.	16. 19	16. 22	59. 54	60. 5	4778	4765

Diſtances of ☽'s Center from Sun, and from Stars eaſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S	D. M. S.	D. M, S.	D. M. S	D.M. S.
1		73. 39. 4	71. 52. 54	70. 6. 40	68. 20. 22	66. 34. 0	64. 47. 35	63. 1. 7	61.14.37
2		59. 28. 5	57. 41. 32	55. 54. 58	54. 8. 24	52. 21. 49	50. 35. 14	48. 48. 40	47. 2. 7
3	Antares.	45. 15. 35	43. 29. 4	41. 42. 34	39. 56. 6	38. 9. 39	36. 23. 14	34. 36. 52	32.50.33
4		31. 4. 17	29. 18. 4	27. 31. 55	25. 45. 49	23. 59. 47	22. 13. 49	20. 27. 56	18.42 7
5		16. 56. 23							
2						119. 51. 37	118. 13. 4	116. 34. 31	114.55.57
3		113. 17. 24	111. 38. 51	110. 0. 18	108. 21. 47	106. 43. 17	105. 4. 49	103. 26. 23	101.47.59
4		100. 9. 37	98. 31. 18	96. 53. 2	95. 14. 49	93. 36. 39	91. 58. 32	90. 20. 29	88.42.30
5	The Sun.	87. 4. 36	85. 26. 46	83. 49. 0	82. 11. 19	80. 33. 42	78. 56. 10	77. 18. 43	75.41.22
6		74. 4. 6	72. 26. 55	70. 49. 50	69. 12. 52	67. 35. 59	65. 59. 12	64. 22. 33	62.46. 0
7		61. 9. 34	59. 33. 15	57. 57. 3	56. 20. 59	54. 45. 2	53. 9. 13	51. 33. 33	49.58. 2
8		48. 22. 39	46. 47. 26	45. 12. 22	43. 37. 28	42. 2. 45			
13						81. 44. 31	80. 11. 26	78. 38. 37	77. 6. 3
14		75. 33. 44	74. 1. 40	72. 29. 50	70. 58. 16	69. 26. 56	67. 55. 50	66. 24. 59	64.54.23
15	Aldebaran.	63. 24. 1	61. 53. 54	60. 24. 1	58. 54. 23	57. 25. 0	55. 55. 51	54. 26. 56	52.58.16
16		51. 29. 50	50. 1. 38	48. 33. 40	47. 5. 58	45. 38. 30	44. 11. 16	42. 44. 18	41.17.37
17		39. 51. 11	38. 25. 0	36. 59. 8	35. 33. 35	34. 8. 21	32. 43. 27	31. 18. 56	29.54.53
18		28. 31. 20	27. 8. 19	25. 45. 52	24. 24. 3	23. 2. 55			

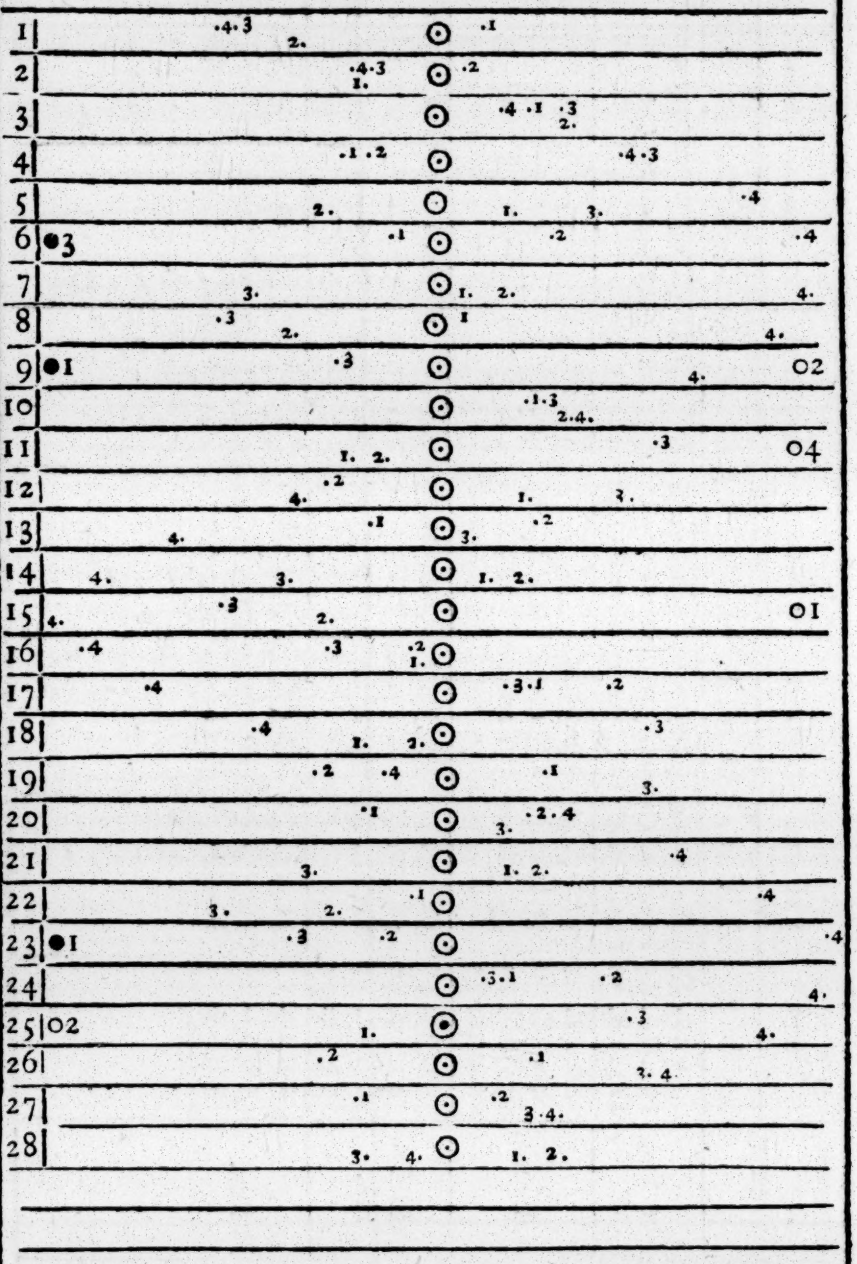
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours	15 Hours	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
18	Pollux.					65. 2. 37	63. 33. 59	62. 5. 19	60. 36. 38
19		59. 7. 54	57. 39. 7	56. 10. 17	54. 41. 23	53. 12. 24	51. 43. 20	50. 14. 11	48. 44. 5
20		47. 15. 33	45. 46. 3	44. 16. 24	42. 46. 36	41. 16. 40	39. 46. 34	38. 16. 16	36. 45. 48
21		35. 15. 8	33. 44. 16	32. 13. 11	30. 41. 53	29. 10. 21			
21	Regulus.					65. 52. 56	64. 21. 14	62. 49. 17	61. 17. 4
22		59. 44. 36	58. 11. 51	56. 38. 49	55. 5. 30	53. 31. 54	51. 58. 0	50. 23. 48	48. 49. 17
23		47. 14. 27	45. 39. 17	44. 3. 47	42. 27. 58	40. 51. 50	39. 15. 22	37. 38. 34	36. 1. 26
24		34. 23. 59	32. 46. 11	31. 8. 4	29. 29. 40	27. 50. 58	26. 11. 59	24. 32. 44	22. 53. 14
25		21. 13. 29							
25	Spica ♍	75. 1. 49	73. 20. 24	71. 38. 37	69. 56. 29	68. 13. 58	66. 31. 5	64. 47. 50	63. 4. 14
26		61. 20. 16	59. 35. 57	57. 51. 18	56. 6. 18	54. 20. 59	52. 35. 20	50. 49. 23	49. 3. 8
27		47. 16. 35	45. 29. 45	43. 42. 40	41. 55. 19	40. 7. 44	38. 19. 55	36. 31. 53	34. 43. 39
28		32. 55. 14	31. 6. 38	29. 17. 53	27. 28. 58	25. 39. 53	23. 50. 37	22. 1. 13	20. 11. 40
M.1		18. 21. 58							

Diſtances of ☽'s Center from Sun, and from Stars weſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Regulus.	26. 32. 58	28. 18. 13	30. 3. 37	31. 49. 10	33. 34. 51	35. 20. 39	37. 6. 32	38. 52. 31
2		40. 38. 34	42. 24. 40	44. 10. 49	45. 57. 1	47. 43. 14	49. 29. 28	51. 15. 42	53. 1. 57
3		54. 48. 13	56. 34. 28	58. 20. 42	60. 6. 55	61. 53. 7	63. 39. 17	65. 25. 25	67. 11. 31
4		68. 57. 35	70. 43. 36	72. 29. 34	74. 15. 30	76. 1. 23			
4	Spica ♍					21. 59. 1	23. 44. 41	25. 30. 20	27. 15. 57
5		29. 1. 32	30. 47. 4	32. 32. 33	34. 17. 58	36. 3. 20	37. 48. 37	39. 33. 50	41. 18. 59
6		43. 4. 3	44. 49. 2	46. 33. 55	48. 18. 43	50. 3. 26	51. 48. 3	53. 32. 34	55. 17. 0
7		57. 1. 19	58. 45. 32	60. 29. 38	62. 13. 37	63. 57. 30			
7	Antares.					18. 3. 32	19. 47. 17	21. 30. 54	23. 14. 24
8		24. 57. 46	26. 41. 1	28. 24. 8	30. 7. 7	31. 49. 58	33. 32. 41	35. 15. 14	36. 57. 39
9		38. 39. 54	40. 22. 0	42. 3. 56	43. 45. 42	45. 27. 17	47. 8. 42	48. 49. 56	50. 30. 59
10		52. 11. 50							
15	The Sun.					41. 53. 26	43. 16. 18	44. 39. 1	46. 1. 35
16		47. 24. 0	48. 46. 16	50. 8. 25	51. 30. 27	52. 52. 20	54. 14. 6	55. 35. 46	56. 57. 20
17		58. 18. 48	59. 40. 9	61. 1. 26	62. 22. 39	63. 43. 47	65. 4. 51	66. 25. 53	67. 46. 52
18		69. 7. 49	70. 28. 45	71. 49. 49	73. 10. 35	74. 31. 31	75. 52. 27	77. 13. 24	78. 34. 24
19		79. 55. 26	81. 16. 31	82. 37. 40	83. 58. 53	85. 20. 11	86. 41. 34	88. 3. 4	89. 24. 40

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. M.	D. M. S.	D. M. S.	D. M. S.
20	The Sun.	90. 46. 23	92. 8. 14	93. 30. 14	94. 52. 23	96. 14. 41	97. 37. 9	98. 59. 49	100. 22. 40
21		101. 45. 43	103. 8. 58	104. 32. 27	105. 56. 10	107. 20. 8	108. 44. 20	110. 8. 48	111. 33. 31
22		112. 58. 30	114. 23. 46	115. 49. 19	117. 15. 10	118. 41. 20			
20	α Arietis.	28. 42. 4	30. 7. 40	31. 33. 41	33. 0. 5	34. 26. 54	35. 54. 7	37. 21. 44	38. 49. 44
21		40. 18. 6	41. 46. 47	43. 15. 48	44. 45. 11	46. 14. 55	47. 44. 59	49. 15. 23	50. 46. 8
22		52. 17. 14	53. 48. 40	55. 20. 26	56. 52. 33	58. 25. 1	59. 57. 50	61. 31. 1	63. 4. 33
23		64. 38. 27							
23	Aldebaran.	34. 35. 58	36. 7. 37	37. 39. 51	39. 12. 39	40. 46. 1	42. 19. 56	43. 54. 22	45. 29. 20
24		47. 4. 48	48. 40. 46	50. 17. 14	51. 54. 10	53. 31. 35	55. 9. 27	56. 47. 46	58. 26. 32
25		60. 5. 45	61. 45. 24	63. 25. 28	65. 5. 58	66. 46. 52	68. 28. 10	70. 9. 51	71. 51. 56
26		73. 34. 24							
26	Pollux.	29. 29. 17	31. 13. 30	32. 58. 5	34. 43. 1	36. 28. 18	38. 13. 55	39. 57. 51	41. 46. 5
27		43. 32. 38	45. 19. 29	47. 6. 35	48. 53. 57	50. 41. 35	52. 29. 28	54. 17. 34	56. 5. 53
28		57. 54. 25	59. 43. 8	61. 32. 2	63. 21. 6	65. 10. 20	66. 59. 41	68. 49. 10	70. 38. 45
M. 1		72. 28. 26							

Configurations of the SATELLITES of JUPITER at 6 o'Clock in the Morning.



MARCH 1782.

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	F.	David.
2	Sa.	Chad.
3	*Su.*	*3d Sunday in Lent.*
4	M.	
5	Tu.	
6	W.	
7	Th.	Perpetua.
8	F.	
9	Sa.	
10	*Su.*	*4th Sunday in Lent. Mid-*
11	M.	*[lent Sunday.*
12	Tu.	Gregory M.
13	W.	
14	Th.	
15	F.	
16	Sa.	
17	*Su.*	*5th Sunday in Lent.*
18	M.	Edw. K. of W. Sax.
19	Tu.	
20	W.	
21	Th.	Benedict.
22	F.	Cam. Term ends.
23	Sa.	Oxf. Term ends.
24	*Su.*	*6th Su. in Lent. Palm Su.*
25	M.	*Annunciation of V. Mary.*
26	Tu.	
27	W.	
28	Th.	
29	F.	*Good Friday.*
30	Sa.	
31	*Su.*	*Easter-Day.*

Phaſes of the Moon.

	D. H. M.
Laſt Quarter —	6. 2. 31
New Moon —	13. 12. 39
Firſt Quarter —	21. 17. 25
Full Moon —	28. 20. 11

Other Phenomena.

D.
4. ☾ 1 ad ι ♎ 2^{h}. 43′.
5. ☾ σ ♏ 6^{h}. 59′.
☾ α ♏ 10^{h}. 19′.
6. ☿ Stationary.
7. ☾ τ ♐ 23^{h}. 11′.
10. ☾ ε ♑ 15^{h}. 19′.
18. ☾ δ ♈ 1^{h}. 13′.
☾ η Pleiadum 19^{h}. 49′.
19. ☉ enters ♈ at 23^{h}. 10′.
20. ☾ β ♉ 17^{h}. 19′.
22. ☾ ι ♊ 20^{h}. 40′.
23. ☾ 2 ad ⚴ ♋ 16^{h}. 0′.
25. ☾ η ♌ 19^{h}. 17′.
27. ☾ σ ♌ 6^{h}. 29′.
28. ☾ η ♍ 8^{h}. 54′.
☽ eclipſed, inviſible.
30. ☿ Stationary.
31. ☾ 1 ad ι ♎ 11^{h}. 1′.

MARCH 1782. II.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. South.	Equat. of Time. Add.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	F.	11. 11. 5. 56	22. 50.15,3	7. 24. 45	12. 37,1	12,7
2	Sa.	11. 12. 5. 59	22. 53.59,2	7. 1. 53	12. 24,4	13,1
3	*Su.*	11. 13. 6. 0	22. 57.42,6	6. 38. 55	12. 11,3	13,5
4	M.	11. 14. 6. 0	23. 1.25,6	6. 15. 50	11. 57,8	13,9
5	Tu.	11. 15. 5. 59	23. 5. 8,2	5. 52. 40	11. 43,9	14,4
6	W.	11. 16. 5. 56	23. 8.50,3	5. 29. 26	11. 29,5	14,8
7	Th.	11. 17. 5. 51	23. 12.32,0	5. 6. 8	11. 14,7	15,1
8	F.	11. 18. 5. 44	23. 16.13,4	4. 42. 45	10. 59,6	15,6
9	Sa.	11. 19. 5. 36	23. 19.54,4	4. 19. 18	10. 44,0	15,9
10	*Su.*	11. 20. 5. 26	23. 23.35,0	3. 55. 48	10. 28,1	16,2
11	M.	11. 21. 5. 15	23. 27.15,4	3. 32. 15	10. 11,9	16,4
12	Tu.	11. 22. 5. 2	23. 30.55,5	3. 8. 39	9. 55,5	16,7
13	W.	11. 23. 4. 47	23. 34.35,3	2. 45. 1	9. 38,8	16,9
14	Th.	11. 24. 4. 30	23. 38.14,9	2. 21. 22	9. 21,9	17,2
15	F.	11. 25. 4. 11	23. 41.54,2	1. 57. 41	9. 4,7	17,4
16	Sa.	11. 26. 3. 50	23. 45.33,3	1. 34. 0	8. 47,3	17,7
17	*Su.*	11. 27. 3. 27	23. 49.12,1	1. 10. 18	8. 29,6	17,9
18	M.	11. 28. 3. 1	23. 52.50,7	0. 46. 35	8. 11,7	18,1
19	Tu.	11. 29. 2. 33	23. 56.29,1	0. 22. 53	7. 53,6	18,2
20	W.	0. 0. 2. 2	0. 0. 7,4	NORTH. 0. 0. 49	7. 35,4	18,3
21	Th.	0. 1. 1. 29	0. 3.45,6	0. 24. 29	7. 17,1	18,4
22	F.	0. 2. 0. 54	0. 7.23,7	0. 48. 9	6. 58,7	18,6
23	Sa.	0. 3. 0. 17	0. 11. 1,6	1. 11. 47	6. 40,1	18,7
24	*Su.*	0. 3. 59. 37	0. 14.39,4	1. 35. 22	6. 21,4	18,8
25	M.	0. 4. 58. 55	0. 18.17,1	1. 58. 55	6. 2,6	18,8
26	Tu.	0. 5. 58. 10	0. 21.54,9	2. 22. 26	5. 43,8	18,7
27	W.	0. 6. 57. 23	0. 25.32,7	2. 45. 53	5. 25,1	18,8
28	Th.	0. 7. 56. 34	0. 29.10,4	3. 9. 17	5. 6,3	18,7
29	F.	0. 8. 55. 43	0. 32.48,1	3. 32. 38	4. 47,6	18,7
30	Sa.	0. 9. 54. 50	0. 36.26,0	3. 55. 55	4. 28,9	18,6
31	*Su.*	0. 10. 53. 55	0. 40. 3,9	4. 19. 6	4. 10,3	

Days.	Semidiameter of the Sun.	Time of D° paſſing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Diſtance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	16. 10,7	1. 5,3	2. 30,2	9,996444	0. 18. 13
7	16. 9,2	1. 4,9	2. 29,7	9,997149	0. 17. 54
13	16. 7,5	1. 4,6	2. 29,2	9,997877	0. 17. 35
19	16. 5,9	1. 4,4	2. 28,8	9,998605	0. 17. 16
25	16. 4,2	1. 4,3	2. 28,3	9,999333	0. 16. 57

ECLIPSES of the SATELLITES of JUPITER.

I. Satellite. Immerſions.		II. Satellite. Immerſions.		III. Satellite.		
Days	H. M. S.	Days	H. M. S.	Days	H. M. S.	
1	17*23. 34	3	18. 34. 45	6	2. 49. 34	I.
3	11. 52. 14	7	7. 53. 14	6	5. 13. 43	E.
5	6. 20. 56	10	21. 11. 47	13	6. 48. 53	I.
7	0. 49. 37	14	10. 30. 20	13	9. 14. 14	E.
8	19. 18. 21	17	23. 48. 54	20	10. 48. 21	I.
10	13. 47. 5	21	13. 7. 27	20	13. 14. 56	E.
12	8. 15. 51	25	2. 26. 0	27	14. 47. 56	I.
14	2. 44. 38	28	15*44. 31	27	17. 15. 45	E.
15	21. 13. 26					
17	15*42. 15			IV. Satellite.		Conj.
19	10. 11. 3					
21	4. 39. 56			8	0. 9	Inf.
22	23. 8. 44			16	7. 36	Sup.
24	17. 37. 38			24	18. 24	Inf.
26	12. 6. 25					
28	6. 35. 19					
30	1. 4. 8					
31	19. 33. 3					

MARCH 1782.

IV.

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Paſſage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
			MERCURY. Inf. ☌ 16^{d}. 2$\frac{1}{4}^{h}$.			
1	3. 9. 2	5. 36 N	11. 29. 5	1. 58 N	1. 26 N	1. 4
4	3. 27. 1	6. 38	0. 0. 56	2. 38	2. 47	0. 58
7	4. 13. 48	7. 0	0. 1. 27	3. 10	3. 30	0. 48
10	4. 29. 9	6. 49	0. 0. 40	3. 31	3. 29	0. 34
13	5. 13. 6	6. 13	11. 28. 49	3. 36	2. 49	0. 16
16	5. 25. 45	5. 22	11. 26. 15	3. 23	1. 37	23. 49
19	6. 7. 19	4. 22	11. 23. 32	2. 55	0. 7 N	23. 29
22	6. 17. 57	3. 17	11. 21. 8	2. 15	1. 27 S	23. 11
25	6. 27. 51	2. 10	11. 19. 23	1. 30	2. 50	22. 56
28	7. 7. 11	1. 3 N	11. 18. 28	0. 43 N	3. 54	22. 44
31	7. 16. 4	0. 2 S	11. 18. 23	0. 2 S	4. 37	22. 34
			VENUS. Inf. ☌ 20^{d}. 13^{h}.			
1	4. 28. 51	3. 16 N	0. 8. 43	7. 6 N	9. 58 N	1. 31
7	5. 8. 37	3. 22	0. 7. 34	7. 57	10. 18	1. 3
13	5. 18. 21	3. 23	0. 5. 3	8. 27	9. 45	0. 30
19	5. 28. 5	3. 18	0. 1. 32	8. 27	8. 22	23. 56
25	6. 7. 47	3. 7	11. 27. 49	7. 55	6. 23	23. 22
			MARS.			
1	2. 9. 28	0. 41 N	1. 6. 57	0. 34 N	14. 23 N	3. 27
7	2. 12. 34	0. 46	1. 11. 3	0. 37	15. 45	3. 21
13	2. 15. 37	0. 51	1. 15. 5	0. 40	17. 2	3. 15
19	2. 18. 39	0. 57	1. 19. 8	0. 44	18. 14	3. 9
25	2. 21. 39	1. 2	1. 23. 9	0. 47	19. 21	3. 4
			JUPITER. □ 17^{d}. 17$\frac{3}{4}^{h}$.			
1	8. 15. 36	0. 31 N	8. 26. 2	0. 30 N	22. 54 S	18. 50
7	8. 16. 5	0. 31	8. 26. 45	0. 30	22. 55	18. 31
13	8. 16. 34	0. 30	8. 27. 22	0. 30	22. 56	18. 12
19	8. 17. 3	0. 29	8. 27. 54	0. 30	22. 57	17. 52
25	8. 17. 32	0. 29	8. 28. 19	0. 30	22. 57	17. 32
			SATURN. □ 21^{d}. 1$^{h}\frac{1}{2}$.			
1	8. 24. 48	1. 8 N	9. 0. 9	1. 6 N	22. 21 S	19. 7
7	8. 24. 59	1. 8	9. 0. 30	1. 7	22. 21	18. 47
13	8. 25. 10	1. 7	9. 0. 47	1. 7	22. 21	18. 27
19	8. 25. 21	1. 7	9. 1. 1	1. 7	22. 20	18. 6
25	8. 25. 31	1. 7	9. 1. 12	1. 7	22. 20	17. 44

MARCH 1782.

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
1	F.	6. 2. 43. 1	6. 10. 0. 56	1. 15. 2 N	0. 35. 43 N
2	Sa.	6. 17. 18. 54	6. 24. 36. 32	0. 4. 8 S	0. 43. 54 S
3	*Su.*	7. 1. 53. 6	7. 9. 7. 59	1. 22. 56	2. 0. 28
4	M.	7. 16. 20. 45	7. 23. 31. 1	2. 35. 54	3. 8. 41
5	Tu.	8. 0. 38. 33	8. 7. 42. 58	3. 38. 18	4. 4. 23
6	W.	8. 14. 44. 17	8. 21. 42. 12	4. 26. 34	4. 44. 37
7	Th.	8. 28. 36. 47	9. 5. 27. 53	4. 58. 23	5. 7. 46
8	F.	9. 12. 15. 34	9. 18. 59. 44	5. 12. 44	5. 13. 20
9	Sa.	9. 25. 40. 29	10. 2. 17. 44	5. 9. 40	5. 1. 52
10	*Su.*	10. 8. 51. 36	10. 15. 22. 2	4. 50. 11	4. 34. 48
11	M.	10. 21. 49. 7	10. 28. 12. 52	4. 16. 4	3. 54. 14
12	Tu.	11. 4. 33. 23	11. 10. 50. 41	3. 29. 41	3. 2. 44
13	W.	11. 17. 4. 50	11. 23. 16. 1	2. 33. 49	2. 3. 16
14	Th.	11. 29. 24. 14	0. 5. 29. 45	1. 31. 31	0. 58. 53 S
15	F.	0. 11. 32. 41	0. 17. 33. 20	0. 25. 48 S	0. 7. 23 N
16	Sa.	0. 23. 31. 54	0. 29. 28. 44	0. 40. 18 N	1. 12. 40
17	*Su.*	1. 5. 24. 8	1. 11. 18. 36	1. 44. 7	2. 14. 23
18	M.	1. 17. 12. 27	1. 23. 6. 16	2. 43. 10	3. 10. 14
19	Tu.	1. 29. 0. 30	2. 4. 55. 44	3. 35. 19	3. 58. 9
20	W.	2. 10. 52. 31	2. 16. 51. 27	4. 18. 31	4. 36. 14
21	Th.	2. 22. 53. 6	2. 28. 58. 5	4. 51. 1	5. 2. 41
22	F.	3. 5. 6. 57	3. 11. 20. 18	5. 11. 2	5. 15. 51
23	Sa.	3. 17. 38. 41	3. 24. 2. 31	5. 16. 59	5. 14. 13
24	*Su.*	4. 0. 32. 14	4. 7. 8. 14	5. 7. 24	4. 56. 28
25	M.	4. 13. 50. 41	4. 20. 39. 47	4. 41. 20	4. 21. 58
26	Tu.	4. 27. 35. 28	5. 4. 37. 37	3. 58. 31	3. 31. 5
27	W.	5. 11. 45. 54	5. 18. 59. 50	3. 0. 0	2. 25. 36
28	Th.	5. 26. 18. 46	6. 3. 42. 0	1. 48. 26	1. 9. 3 N
29	F.	6. 11. 8. 30	6. 18. 37. 15	0. 28. 13 N	0. 13. 20 S
30	Sa.	6. 26. 7. 20	7. 3. 37. 34	0. 54. 46 S	1. 35. 17
31	*Su.*	7. 11. 6. 55	7. 18. 34. 27	2. 14. 3	2. 50. 23

MARCH 1782.

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Paſsage over Merid.	☽'s Right Aſcen. at Noon.	☽'s Right Aſcen. at Midn.	☽'s Declination at Noon.	☽'s Declination at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	F.	19	13. 49	182. 59	189. 26	0. 4 N	3. 25 S
2	Sa.	20	14. 40	195. 56	202. 31	6. 52 S	10. 13
3	*Su.*	21	15. 33	209. 13	216. 4	13. 26	16. 28
4	M.	22	16. 28	223. 5	230. 17	19. 14	21. 43
5	Tu.	23	17. 27	237. 39	245. 12	23. 52	25. 38
6	W.	24	18. 28	252. 52	260. 38	27. 0	27. 57
7	Th.	25	19. 28	268. 26	276. 12	28. 26	28. 29
8	F.	26	20. 27	283. 52	291. 23	28. 5	27. 17
9	Sa.	27	21. 21	298. 43	305. 49	26. 6	24. 34
10	*Su.*	28	22. 11	312. 40	319. 17	22. 44	20. 37
11	M.	29	22. 59	325. 39	331. 47	18. 17	15. 46
12	Tu.	30	23. 42	337. 44	343. 30	13. 6	10. 19
13	W.	1	☌	349. 8	354. 38	7. 28	4. 34 S
14	Th.	2	0. 22	0. 4	5. 26	1. 38 S	1. 17 N
15	F.	3	1. 3	10. 47	16. 8	4. 11 N	7. 1
16	Sa.	4	1. 43	21. 31	26. 58	9. 46	12. 26
17	*Su.*	5	2. 25	32. 30	38. 9	14. 58	17. 22
18	M.	6	3. 8	43. 55	49. 51	19. 36	21. 38
19	Tu.	7	3. 55	55. 55	62. 11	23. 28	25. 3
20	W.	8	4. 43	68. 37	75. 13	26. 22	27. 24
21	Th.	9	5. 35	81. 57	88. 50	28. 7	28. 30
22	F.	10	6. 30	95. 48	102. 50	28. 33	28. 14
23	Sa.	11	7. 24	109. 54	116. 57	27. 32	26. 29
24	*Su.*	12	8. 19	123. 57	130. 54	25. 4	23. 17
25	M.	13	9. 12	137. 46	144. 32	21. 11	18. 45
26	Tu.	14	10. 2	151. 12	157. 48	16. 3	13. 6
27	W.	15	10. 53	164. 21	170. 51	9. 56	6. 35 N
28	Th.	16	11. 44	177. 20	183. 51	3. 8 N	0. 25 S
29	F.	17	12. 35	190. 25	197. 5	3. 59 S	7. 31
30	Sa.	18	13. 28	203. 53	210. 49	10. 57	14. 14
31	*Su.*	19	14. 24	217. 57	225. 16	17. 18	20. 6

MARCH 1782.

Days of the Month.	Days of the Week.	Semidʳ. ☽ at Noon.	Semidʳ. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	F.	16. 25	16. 26	60. 14	60. 18	4754	4750
2	Sa.	16. 26	16. 26	60. 19	60. 17	4748	4751
3	*Su.*	16. 24	16. 22	60. 12	60. 5	4757	4765
4	M.	16. 20	16. 17	59. 55	59. 44	4777	4790
5	Tu.	16. 13	16. 9	59. 31	59. 17	4806	4823
6	W.	16. 5	16. 1	59. 2	58. 46	4842	4861
7	Th.	15. 56	15. 52	58. 30	58. 14	4881	4901
8	F.	15. 47	15. 43	57. 57	57. 41	4922	4942
9	Sa.	15. 39	15. 34	57. 25	57. 9	4962	4983
10	*Su.*	15. 30	15. 26	56. 53	56. 38	5003	5022
11	M.	15. 22	15. 18	56. 23	56. 9	5041	5059
12	Tu.	15. 14	15. 10	55. 55	55. 41	5077	5095
13	W.	15. 7	15. 3	55. 28	55. 15	5112	5129
14	Th.	15. 0	14. 57	55. 3	54. 52	5145	5159
15	F.	14. 55	14. 52	54. 43	54. 34	5171	5183
16	Sa.	14. 50	14. 49	54. 26	54. 21	5194	5201
17	*Su.*	14. 48	14. 47	54. 17	54. 14	5206	5210
18	M.	14. 46	14. 47	54. 13	54. 14	5211	5210
19	Tu.	14. 48	14. 49	54. 18	54. 23	5205	5198
20	W.	14. 52	14. 55	54. 32	54. 43	5186	5171
21	Th.	14. 58	15. 3	54. 56	55. 13	5154	5132
22	F.	15. 8	15. 13	55. 31	55. 52	5108	5081
23	Sa.	15. 19	15. 26	56. 14	56. 39	5053	5021
24	*Su.*	15. 33	15. 41	57. 5	57. 32	4987	4953
25	M.	15. 48	15. 56	58. 0	58. 28	4918	4883
26	Tu.	16. 4	16. 11	58. 56	59. 22	4849	4817
27	W.	16. 18	16. 24	59. 48	60. 10	4786	4959
28	Th.	16. 29	16. 33	60. 30	60. 45	4735	4717
29	F.	16. 36	16. 38	60. 56	61. 4	4704	4694
30	Sa.	16. 39	16. 39	61. 8	61. 6	4690	4692
31	*Su*	16. 38	16. 35	61. 1	60. 51	4698	471

Diſtances of ☽'s Center from Sun, and from Stars eaſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Antares.	64. 12. 34	62. 22. 42	60. 32. 49	58. 42. 54	56. 52. 58	55. 3. 1	53. 13. 5	51.23. 9
2		49. 33. 14	47. 43. 19	45. 53. 27	44. 3. 37	42. 13. 51	40. 24. 9	38. 34. 33	36.45. 3
3		34. 55. 39							
3	α Aquilæ.	87. 53. 44	86. 23. 39	84. 53. 45	83. 24. 1	81. 54. 30	80. 25. 18	78. 56. 28	77.27.58
4		75. 59. 51	74. 32. 11	73. 5. 0	71. 38. 20	70. 12. 13			
4	Fomal-haut.					95. 37. 45	93. 55. 23	92. 13. 12	90.31.12
5		88. 49. 24	87. 7. 49	85. 26. 27	83. 45. 20	82. 4. 27	80. 23. 50	78. 43. 29	77. 3.26
6		75. 23. 39							
3	The Sun.							121. 4. 39	119.23.56
4		117. 43. 23	116. 3. 1	114. 22. 49	112. 42. 49	111. 2. 59	109. 23. 21	107. 43. 55	106. 4.41
5		104. 25. 39	102. 46. 51	101. 8. 17	99. 29. 55	97. 51. 47	96. 13. 51	94. 36. 9	92.58.40
6		91. 21. 24	89. 44. 23	88. 7. 36	86. 31. 3	84. 54. 44	83. 18. 38	81. 42. 46	80. 7. 7
7		78. 31. 42	76. 56. 31	75. 21. 34	73. 46. 50	72. 12. 20	70. 38. 3	69. 4. 0	67.30.10
8		65. 56. 33	64. 23. 10	62. 49. 59	61. 17. 2	59. 44. 18	58. 11. 46	56. 39. 27	55. 7.21
9		53. 35. 27	52. 3. 47	50. 32. 19	49. 1. 3	47. 30. 0	45. 59. 8	44. 28. 29	42.58. 1
10		41. 27. 46	39. 57. 43						
15	Aldeba-ran.					49. 25. 45	47. 57. 47	46. 30. 2	45. 2.31
16		43. 35. 13	42. 8. 11	40. 41. 26	39. 14. 58	37. 48. 47	36. 22. 55	34. 57. 22	33.32.13
17		32. 7. 27	30. 43. 0	29. 19. 7	27. 55. 48	26. 33. 4	25. 11. 2	23. 49. 50	22.29.29
18		21. 10. 0							

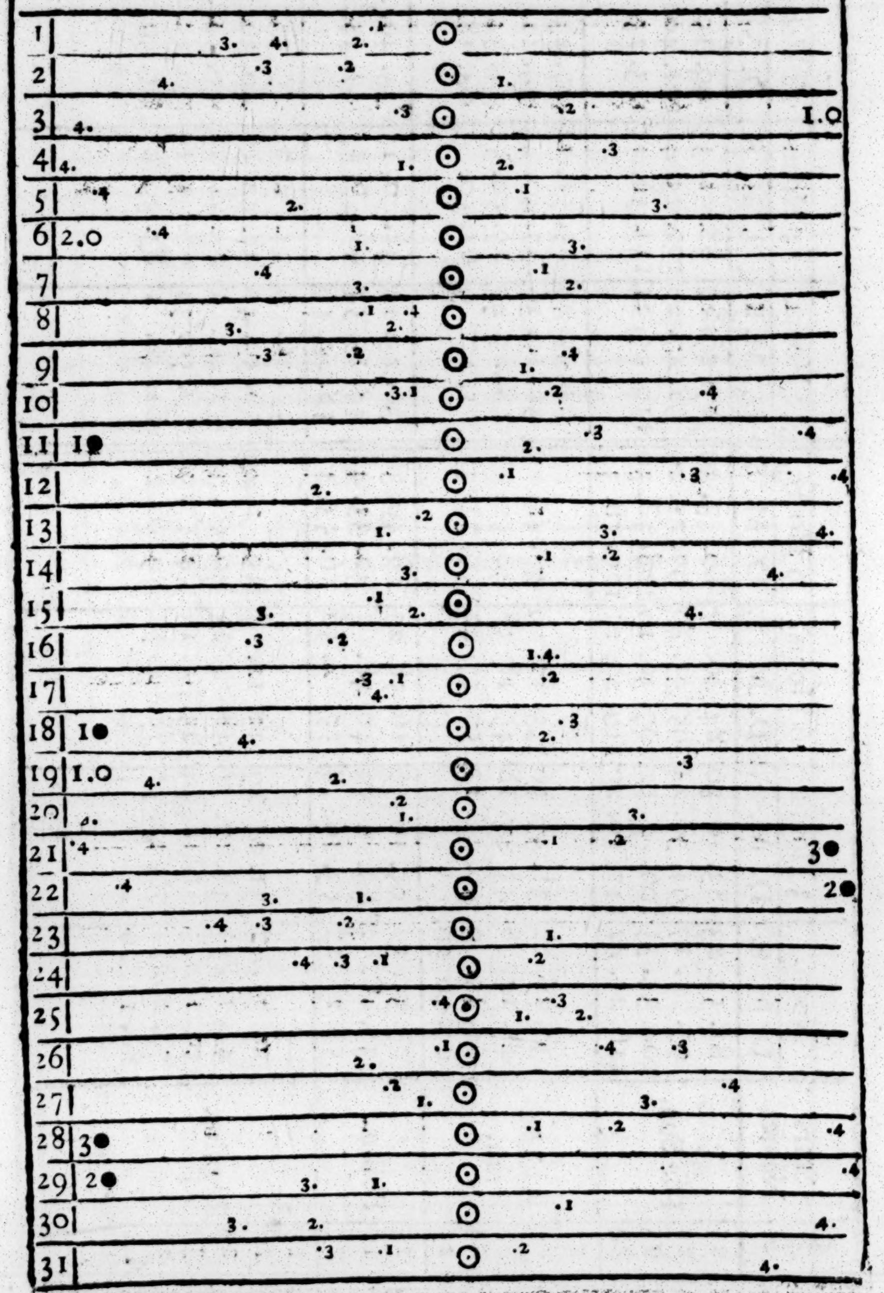
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
18	Pollux.	62. 53. 9	61. 24. 34	59. 56. 0	58. 27. 27	56. 58. 54	55. 30. 21	54. 1. 46	52. 33. 10
19		51. 4. 33	49. 35. 53	48. 7. 10	46. 38. 23	45. 9. 33	43. 40. 38	42. 11. 39	40. 42. 33
20		39. 13. 22	37. 44. 3	36. 14. 38	34. 45. 4	33. 15. 23	31. 45. 33	30. 15. 34	28. 45. 24
21		27. 15. 6							
21	Regulus.	63. 58. 51	62. 28. 26	60. 57. 48	59. 26. 59	57. 55. 57	56. 24. 42	54. 53. 13	53. 21. 30
22		51. 49. 32	50. 17. 19	48. 44. 49	47. 12. 3	45. 39. 0	44. 5. 40	42. 32. 0	40. 58. 4
23		39. 23. 49	37. 49. 16	36. 14. 23	34. 39. 13	33. 3. 43	31. 27. 55	29. 51. 48	28. 15. 21
24		26. 38. 36							
24	Spica ♍	80. 30. 5	78. 52. 5	77. 13. 41	75. 34. 52	73. 55. 38	72. 15. 59	70. 35. 55	68. 55. 25
25		67. 14. 30	65. 33. 8	63. 51. 20	62. 9. 5	60. 26. 25	58. 43. 18	56. 59. 46	55. 15. 48
26		53. 31. 24	51. 46. 34	50. 1. 19	48. 15. 38	46. 29. 33	44. 43. 3	42. 56. 9	41. 8. 52
27		39. 21. 12	37. 33. 9	35. 44. 45	33. 56. 0	32. 6. 54	30. 17. 29	28. 27. 47	26. 37. 47
28		24. 47. 29							
28	Antares	70. 38. 19	68. 47. 30	66. 56. 25	65. 5. 5	63. 13. 30	61. 21. 42	59. 29. 43	57. 37. 33
29		55. 45. 12	53. 52. 43	52. 0. 7	50. 7. 24	48. 14. 34	46. 21. 39	44. 28. 41	42. 35. 41
30		40. 42. 39	38. 49. 37	36. 56. 37	35. 3. 39	33. 10. 44			
30	α Aquilæ.					86. 29. 0	84. 56. 7	83. 23. 24	81:50. 55
31		80. 18. 40	78. 46. 44	77. 15. 13	75. 44. 7	74. 13. 26	72. 43. 17	71. 13. 45	69. 44. 52
A. 1		68. 16. 37							

Diſtances of ☽'s Center from Sun, and from Stars weſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Regulus.	35. 54. 50	37. 44. 8	39. 33. 29	41. 22. 54	43. 12. 23	45. 1. 54	46. 51. 27	48. 41. 0
2		50. 30. 35	52. 20. 11	54. 9. 44	55. 59. 16	57. 48. 45	59. 38. 10	61. 27. 30	63. 16. 44
3		65. 5. 53	66. 54. 56	68. 43. 50	70. 32. 37	72. 21. 15			
3	Spica ♍					18. 18. 53	20. 7. 13	21. 55. 25	23. 43. 30
4		25. 31. 26	27. 19. 14	29. 6. 52	30. 54. 20	32. 41. 38	34. 28. 45	36. 15. 41	38. 2. 24
5		39. 48. 56	41. 35. 13	43. 21. 18	45. 7. 9	46. 52. 48	48. 38. 15	50. 23. 28	52. 8. 28
6		53. 53. 15	55. 37. 46	57. 22. 5	59. 6. 8	60. 49. 59	62. 33. 36	64. 16. 59	66. 0. 9
7		67. 43. 5							
7	Antares.	21. 49. 4	23. 31. 45	25. 14. 14	26. 56. 30	28. 38. 33	30. 20. 23	32. 2. 0	33. 43. 24
8		35. 24. 35	37. 5. 32	38. 46. 16	40. 26. 47	42. 7. 4	43. 47. 9	45. 27. 1	47. 6. 40
9		48. 46. 7	50. 25. 21	52. 4. 23	53. 43. 12	55. 21. 50	57. 0. 16	58. 38. 31	60. 16. 33
10		61. 54. 24	63. 32. 2	65. 9. 29	66. 46. 44	68. 23. 48	70. 0. 40	71. 37. 22	73. 13. 51
11		74. 50. 10	76. 26. 17	78. 2. 14	79. 37. 59	81. 13. 33	82. 48. 56	84. 24. 9	85. 59. 11
12		87. 34. 2							
17	The Sun.		39. 44. 10	41. 5. 33	42. 26. 52	43. 48. 7	45. 9. 19	46. 30. 30	47. 51. 39
18		49. 12. 47	50. 33. 54	51. 55. 2	53. 16. 9	54. 37. 16	55. 58. 23	57. 19. 30	58. 40. 40
19		60. 1. 51	61. 23. 6	62. 44. 24	64. 5. 47	65. 27. 13	66. 48. 44	68. 10. 21	69. 32. 3
20		70. 53. 52	72. 15. 48	73. 37. 51	75. 0. 3	76. 22. 23	77. 44. 52	79. 7. 32	80. 30. 22

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
21	The Sun.	81. 53. 23	83. 16. 36	84. 40. 1	86. 3. 39	87. 27. 29	88. 51. 33	90. 15. 53	91. 40. 27
22		93. 5. 17	94. 30. 24	95. 55. 48	97. 21. 29	98. 47. 28	100. 13. 46	101. 40. 22	103. 7. 19
23		104. 34. 35	106. 2. 12	107. 30. 10	108. 58. 30	110. 27. 11	111. 56. 14	113. 25. 40	114. 55. 29
24		116. 25. 42	117. 56. 20	119. 27. 21	120. 58. 52				
21	Aldebaran.					24. 33. 46	25. 58. 12	27. 23. 26	28. 49. 29
22		30. 16. 22	31. 43. 56	33. 12. 9	34. 41. 3	36. 10. 36	37. 40. 40	39. 11. 17	40. 42. 26
23		42. 14. 8	43. 46. 18	45. 18. 58	46. 52. 8	48. 25. 47	49. 59. 55	51. 34. 30	53. 9. 36
24		54. 45. 9	56. 21. 11	57. 57. 42	59. 34. 41	61. 12. 9	62. 50. 5	64. 28. 27	66. 7. 18
25		67. 46. 36							
25	Pollux.	23. 35. 32	25. 16. 46	26. 58. 27	28. 40. 36	30. 23. 12	32. 6. 15	33. 49. 44	35. 33. 40
26		37. 18. 3	39. 2. 53	40. 48. 7	42. 33. 48	44. 19. 54	46. 6. 25	47. 53. 20	49. 40. 39
27		51. 28. 22	53. 16. 28	55. 4. 56	56. 53. 47	58. 42. 59			
27	Regulus.					22. 16. 6	24. 4. 21	25. 53. 3	27. 42. 12
28		29. 31. 47	31. 21. 47	33. 12. 5	35. 2. 43	36. 53. 42	38. 44. 56	40. 36. 23	42. 28. 3
29		44. 19. 57	46. 12. 1	48. 4. 13	49. 56. 34	51. 49. 3	53. 41. 38	55. 34. 17	57. 26. 59
30		59. 19. 44	61. 12. 29	63. 5. 12	64. 57. 54	66. 50. 34	68. 43. 10	70. 35. 39	72. 28. 3
31		74. 20. 21	76. 12. 31	78. 4. 31	79. 56. 21	81. 48. 1	83. 39. 29	85. 30. 42	87. 21. 41
A. 1		89. 12. 26							

Configurations of the SATELLITES of JUPITER at Four o' Clock in the Morning.



APRIL 1782.

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	M.	*Eaſter-Monday.*
2	Tu.	*Eaſter-Tueſday.*
3	W.	Richard, Bp. of Chich.
4	Th.	St. Ambroſe.
5	F.	
6	Sa.	
7	*Su.*	*1ſt Su. aft. Eaſt. Low-Su.*
8	M.	
9	Tu.	
10	W.	Ox. and Cam. T. begin.
11	Th.	
12	F.	
13	Sa.	
14	*Su.*	*2d Sunday after Eaſter.*
15	M.	From Eaſter in 15 days,
16	Tu.	[1 ret.
17	W.	Eaſter Term begins.
18	Th.	
19	F.	Alphege.
20	Sa.	
21	*Su.*	*3d Sunday after Eaſter.*
22	M.	From Eaſter in 3 weeks,
23	Tu.	St. George. [2 ret.
24	W.	
25	Th.	*St. Mark. Prs. Mary b-*
26	F.	
27	Sa.	
28	*Su.*	*4th Sunday after Eaſter.*
29	M.	From Eaſt. in 1 month,
30	Tu.	[3 ret.

Phaſes of the Moon.

	D.H.M.
Laſt Quarter —	4. 11. 8
New Moon —	12. 5. 32
Firſt Quarter —	20. 8. 54
Full Moon —	27. 5. 2

Other Phenomena.

D.	
1.	☾ σ ♏ 14^{h}. 20′.
	☾ α ♏ 17^{h}. 35′.
4.	☾ τ ♐ 5^{h}. 1′.
6.	☾ ε ♑ 21^{h}. 0′.
8.	☾ 1 ad ψ ♒ 22^{h}. 46′.
	☾ 2 ad ψ ♒ 23^{h}. 38′.
	☾ 3 ad ψ ♒ 23^{h}. 46′.
9.	☾ ☿ 18^{h}. 24′.
10.	♄ Stationary.
	♀ Stationary.
12.	☉ eclipſed, viſible.
14.	☾ δ ♈ 8^{h}. 1′.
15.	☾ η Pleiadum 2^{h}. 37′.
	♃ Stationary.
17.	☾ β ♉ 0^{h}. 17′.
19.	☾ ι ♊ 4^{h}. 20′.
	☉ enters ♉ at 11^{h}. 59′.
20.	☾ 2 ad ψ ♋ 0^{h}. 8′.
22.	☾ η ♌ 4^{h}. 51′.
23.	☾ σ ♌ 16^{h}. 59′.
24.	☾ β ♍ 7^{h}. 6′.
	☾ η ♍ 19^{h}. 52′.
27.	☾ 1 ad ι ♎ 21^{h}. 32′.
29.	☾ σ ♏ 0^{h}. 5′.
	☾ α ♏ 3^{h}. 13′.

APRIL 1782. II.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Aſc. in Time.	Sun's Declin. North.	Equat. of Time. Add.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	M.	0. 11. 52. 58	0.43.41,6	4. 42. 14	3. 51,5	18,2
2	Tu.	0. 12. 51. 59	0.47.19,8	5. 5. 17	3. 33,3	18,1
3	W.	0. 13. 50. 58	0.50.58,2	5. 28. 14	3. 15,2	18,0
4	Th.	0. 14. 49. 57	0.54.36,8	5. 51. 6	2. 57,2	17,8
5	F.	0. 15. 48. 53	0.58.15,5	6. 13. 52	2. 39,4	17,6
6	Sa.	0. 16. 47. 47	1. 1.54,4	6. 36. 31	2. 21,8	17,4
7	*Su.*	0. 17. 46. 40	1. 5.33,4	6. 59. 4	2. 4,4	17,2
8	M.	0. 18. 45. 31	1. 9.12,7	7. 21. 30	1. 47,2	16,9
9	Tu.	0. 19. 44. 20	1.12.52,3	7. 43. 49	1. 30,3	16,7
10	W.	0. 20. 43. 8	1.16.32,2	8. 6. 0	1. 13,6	16,3
11	Th.	0. 21. 41. 54	1.20.12,5	8. 28. 3	0. 57,3	16,0
12	F.	0. 22. 40. 38	1.23.53,0	8. 49. 58	0. 41,3	15,8
13	Sa.	0. 23. 39. 20	1.27.33,7	9. 11. 44	0. 25,5	15,4
14	*Su.*	0. 24. 38. 0	1.31.14,8	9. 33. 20	0. 10,1	15,0
15	M.	0. 25. 36. 38	1.34.56,3	9. 54. 46	Sub. 4,9	14,7
16	Tu.	0. 26. 35. 14	1.38.38,1	10. 16. 3	0. 19,6	14,3
17	W.	0. 27. 33. 48	1.42.20,3	10. 37. 11	0. 33,9	14,0
18	Th.	0. 28. 32. 19	1.46. 2,8	10. 58. 8	0. 47,9	13,6
19	F.	0. 29. 30. 48	1.49.45,7	11. 18. 53	1. 1,5	13,3
20	Sa.	1. 0. 29. 15	1.53.29,0	11. 39. 27	1. 14,8	12,9
21	*Su.*	1. 1. 27. 40	1.57.12,7	11. 59. 50	1. 27,7	12,4
22	M.	1. 2. 26. 2	2. 0.56,8	12. 20. 1	1. 40,1	11,9
23	Tu.	1. 3. 24. 22	2. 4.41,4	12. 40. 0	1. 52,0	11,5
24	W.	1. 4. 22. 41	2. 8.26,5	12. 59. 46	2. 3,5	10,9
25	Th.	1. 5. 20. 58	2.12.12,0	13. 19. 19	2. 14,4	10,5
26	F.	1. 6. 19. 13	2.15.58,0	13. 38. 39	2. 24,9	10,0
27	Sa.	1. 7. 17. 25	2.19.44,5	13. 57. 46	2. 34,9	9,5
28	*Su.*	1. 8. 15. 36	2.23.31,5	14. 16. 40	2. 44,4	9,1
29	M.	1. 9. 13. 45	2.27.19,0	14. 35. 19	2. 53,5	8,5
30	Tu.	1. 10. 11. 53	2.31. 7,0	14. 53. 44	3. 2,0	

Days of the Month.	Semidiameter of the Sun.	Time of D° paſſing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Diſtance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	16. 2,3	1. 4,4	2. 27,6	0. 000210	0. 16. 34
7	16. 0,6	1. 4,5	2. 27,1	0. 000978	0. 16. 15
13	15. 59,0	1. 4,8	2. 26,5	0. 001720	0. 15. 56
19	15. 57,5	1. 5,1	2. 26,1	0. 002419	0. 15. 37
25	15. 56,0	1. 5,5	2. 25,6	0. 003088	0. 15. 18

Eclipſes of the SATELLITES of JUPITER.

I. Satellite. Immerſions.		II. Satellite. Immerſions.		III. Satellite.	
Days	H. M. S.	Days	H. M. S.	Days	H. M. S.
2	14. 1. 52	1	5. 3. 0	3	18. 47. 40 I
4	8. 30. 44	4	18. 21. 27	3	21. 16. 37 E
6	2. 59. 35	8	7. 39. 49	10	22. 47. 15 I
7	21. 28. 26	11	20. 58. 7	11	1. 17. 26 E
9	15*57. 18	15	10. 16. 17	18	2. 46. 47 I
11	10. 26. 8	18	23. 34. 22	18	5. 18. 9 E
13	4. 54. 56	22	12. 52. 16	25	6. 45. 53 I
14	23. 23. 42	26	2. 10. 4	25	9. 18. 29 E
16	17. 52. 30	29	15*27. 48		
18	12. 21. 17				
20	6. 50. 2				
22	1. 18. 46				
23	19. 47. 30				
25	14*16. 12				
27	8. 44. 54				
29	3. 13. 34				
30	21. 42. 11				

IV. Satellite. Conj.		
2	1. 23	Sup.
10	11. 45	Inf.
18	18. 15	Sup.
27	4. 7	Inf.

APRIL 1782. IV.

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Paſſage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
	MERCURY. Gr. Elong. 13^{d}.					
1	7. 18. 57	0. 24 S	11. 18. 32	0. 15 S	4. 46 S	22. 23
4	7. 27. 27	1. 25	11. 19. 33	0. 54	4. 58	22. 27
7	8. 5. 46	2. 24	11. 21. 13	1. 27	4. 49	22. 25
10	8. 14. 0	3. 19	11. 23. 27	1. 54	4. 21	22. 23
13	8. 22. 15	4. 11	11. 26. 11	2. 16	3. 36	22. 23
16	9. 0. 37	4. 57	11. 29. 21	2. 31	2. 34	22. 24
19	9. 9. 11	5. 38	0. 2. 54	2. 42	1. 19 S	22. 25
22	9. 18. 2	6. 12	0. 6. 47	2. 47	0. 9 N	22. 29
25	9. 27. 19	6. 39	0. 10. 59	2. 47	1. 48	22. 34
28	10. 7. 8	6. 55	0. 15. 28	2. 42	3. 37	22. 38
30	10. 14. 3	7. 0	0. 18. 38	2. 35	4. 55	22. 42
	VENUS.					
1	6. 19. 5	2. 48 N	11. 24. 22	6. 42 N	3. 55 N	22. 42
7	6. 28. 44	2. 26	11. 22. 45	5. 23	2. 4	22. 17
13	7. 8. 21	2. 1	11. 22. 38	4. 4	0. 49	21. 57
19	7. 17. 57	1. 32	11. 23. 51	2. 49	0. 8	21. 42
25	7. 27. 31	1. 0	11. 26. 12	1. 41	0. 2	21. 31
	MARS.					
1	2. 25. 7	1. 7 N	1. 27. 49	0. 50 N	20. 31 N	2. 58
7	2. 28. 4	1. 11	2. 1. 48	0. 53	21. 25	2. 53
13	3. 0. 59	1. 16	2. 5. 47	0. 55	22. 12	2. 47
19	3. 3. 52	1. 20	2. 9. 44	0. 57	22. 53	2. 42
25	3. 6. 44	1. 24	2. 13. 41	0. 59	23. 27	2. 37
	JUPITER.					
1	8. 18. 6	0. 28 N	8. 28. 42	0. 30 N	22. 58 S	17. 8
7	8. 18. 34	0. 27	8. 28. 55	0. 30	22. 58	16. 47
13	8. 19. 3	0. 27	8. 29. 0	0. 30	22. 58	16. 26
19	8. 19. 32	0. 26	8. 28. 59	0. 29	22. 59	16. 3
25	8. 20. 1	0. 26	8. 28. 50	0. 29	22. 59	15. 40
	SATURN.					
1	8. 25. 44	1. 6 N	9. 1. 20	1. 8 N	22. 20 S	17. 21
7	8. 25. 55	1. 6	9. 1. 24	1. 8	22. 20	16. 58
13	8. 26. 6	1. 5	9. 1. 23	1. 8	22. 19	16. 36
19	8. 26. 16	1. 5	9. 1. 19	1. 8	22. 19	16. 13
25	8. 26. 27	1. 4	9. 1. 12	1. 8	22. 19	15. 50

APRIL 1782.

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D.M.S.	D. M. S.
1	M.	7. 25. 59. 10	8. 3. 20. 24	3.23.37 S	3. 53. 12 S
2	Tu.	8. 10. 37. 27	8. 17. 49. 50	4.18.41	4. 39. 48
3	W.	8. 24. 57. 11	9. 1. 59. 14	4.56.20	5. 8. 11
4	Th.	9. 8. 55. 52	9. 15. 47. 4	5.15.21	5. 17. 55
5	F.	9. 22. 32. 54	9. 29. 13. 31	5.16. 1	5. 9. 52
6	Sa.	10. 5. 49. 6	10. 12. 19. 57	4.59.39	4. 45. 43
7	*Su.*	10. 18. 46. 13	10. 25. 8. 21	4.28.18	4. 7. 45
8	M.	11. 1. 26. 35	11. 7. 41. 17	3.44.23	3. 18. 31
9	Tu.	11. 13. 52. 43	11. 20. 1. 14	2.50.35	2. 20. 51
10	W.	11. 26. 7. 6	0. 2. 10. 38	1.49.44	1. 17. 35
11	Th.	0. 8. 12. 4	0. 14. 11. 43	0.44.43 S	0. 11. 33 S
12	F.	0. 20. 9. 45	0. 26. 6. 31	0.21.36 N	0. 54. 24 N
13	Sa.	1. 2. 2. 11	1. 7. 57. 3	1.26.29	1. 57. 33
14	*Su.*	1. 13. 51. 23	1. 19. 45. 27	2.27.18	2. 55. 27
15	M.	1. 25. 39. 34	2. 1. 34. 5	3.21.41	3. 45. 48
16	Tu.	2. 7. 29. 17	2. 13. 25. 38	4. 7.32	4. 26. 40
17	W.	2. 19. 23. 28	2. 25. 23. 17	4.42.58	4. 56. 18
18	Th.	3. 1. 25. 29	3. 7. 30. 34	5. 6.25	5. 13. 13
19	F.	3. 13. 39. 2	3. 19. 51. 23	5.16.29	5. 16. 7
20	Sa.	3. 26. 8. 5	4. 2. 29. 39	5.12. 0	5. 4. 4
21	*Su.*	4. 8. 56. 32	4. 15. 29. 10	4.52. 9	4. 36. 22
22	M.	4. 22. 7. 56	4. 28. 53. 7	4.16.35	3. 52. 58
23	Tu.	5. 5. 44 57	5. 12. 43. 32	3.25.39	2. 54. 52
24	W.	5. 19. 48. 48	5. 27. 0. 35	2.20.55	1. 44. 15
25	Th.	6. 4. 18. 32	6. 11. 42. 3	1. 5.21 N	0. 24. 54 N
26	F.	6. 19. 10. 24	6. 26. 42. 43	0.16.24 S	0. 57. 47 S
27	Sa.	7. 4. 17. 52	7. 11. 54. 42	1.38.19	2. 17. 13
28	*Su.*	7. 19. 31. 54	7. 27. 8. 14	2.53.42	3. 26. 59
29	M.	8. 4. 42. 26	8. 12. 13. 18	3.56.28	4. 21. 35
30	Tu.	8. 19. 39. 49	8. 27. 1. 7	4.42. 2	4. 57. 32

APRIL. 1782.

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Paſsage over Merid.	☽'s Right Aſcen. at Noon.	☽'s Right Aſc. at Midn.	☽'s Declinat. at Noon.	☽'s Declin. at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	M.	20	15. 25	232. 47	240. 29	22. 34 S	24. 40 S
2	Tu.	21	16. 27	248. 20	256. 17	26. 20	27. 33
3	W.	22	17. 29	264. 17	272. 15	28. 18	28. 35
4	Th.	23	18. 30	280. 7	287. 54	28. 25	27. 47
5	F.	24	19. 26	295. 20	302. 34	26. 46	25. 23
6	Sa.	25	20. 17	309. 32	316. 14	23. 41	21. 41
7	*Su.*	26	21. 5	322. 40	328. 52	19. 28	17. 2
8	M.	27	21. 48	334. 51	340. 38	14. 28	11. 46
9	Tu.	28	22. 28	346. 16	351. 46	8. 58	6. 6
10	W.	29	23. 9	357. 10	2. 31	3. 13 S	0. 19 S
11	Th.	30	23. 50	7. 49	13. 8	2. 34 N	5. 26 N
12	F.	1	☌	18. 28	23. 52	8. 13	10. 56
13	Sa.	2	0. 31	29. 21	34. 55	13. 33	16. 2
14	*Su.*	3	1. 13	40. 37	46. 28	18. 21	20. 31
15	M.	4	1. 59	52. 27	58. 37	22. 28	24. 11
16	Tu.	5	2. 46	64. 56	71. 25	25. 39	26. 51
17	W.	6	3. 38	78. 2	84. 47	27. 44	28. 19
18	Th.	7	4. 30	91. 37	98. 31	28. 34	28. 28
19	F.	8	5. 24	105. 26	112. 21	28. 1	27. 13
20	Sa.	9	6. 16	119. 14	126. 3	26. 3	24. 34
21	*Su.*	10	7. 8	132. 46	139. 24	22. 45	20. 37
22	M.	11	7. 58	145. 58	152. 26	18. 11	15. 31
23	Tu.	12	8. 48	158. 51	165. 13	12. 36	9. 29
24	W.	13	9. 37	171. 34	177. 57	6. 11 N	2. 47 N
25	Th.	14	10. 27	184. 23	190. 55	0. 42 S	4. 15 S
26	F.	15	11. 18	197. 35	204. 25	7. 46	11. 13
27	Sa.	16	12. 14	211. 28	218. 44	14. 31	17. 36
28	*Su.*	17	13. 13	226. 14	233. 59	20. 25	22. 54
29	M.	18	14. 16	241. 57	250. 6	24. 59	26. 36
30	Tu.	19	15. 22	258. 20	266. 37	27. 45	28. 24

VII. APRIL 1782.

Days of the Month.	Days of the Week.	Semid^r ☽ at Noon.	Semid^r. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	M.	16. 32	16. 27	60. 39	60. 23	4724	4743
2	Tu.	16. 22	16. 17	60. 4	59. 44	4766	4790
3	W.	16. 11	16. 4	59. 22	58. 59	4817	4845
4	Th.	15. 58	15. 52	58. 36	58. 13	4874	4902
5	F.	15. 46	15. 40	57. 50	57. 28	4931	4958
6	Sa.	15. 34	15. 28	57. 6	56. 46	4986	5012
7	*Su.*	15. 23	15. 18	56. 27	56. 9	5036	5059
8	M.	15. 13	15. 9	55. 53	55. 37	5080	5100
9	Tu.	15. 5	15. 2	55. 23	55. 9	5119	5137
10	W.	14. 59	14. 56	54. 58	54. 47	5152	5166
11	Th.	14. 53	14. 51	54. 38	54. 30	5178	5189
12	F.	14. 49	14. 48	54. 23	54. 17	5198	5206
13	Sa.	14. 46	14. 45	54. 12	54. 9	5213	5217
14	*Su.*	14. 45	14. 45	54. 7	54. 7	5219	5219
15	M.	14. 45	14. 46	54. 8	54. 11	5218	5214
16	Tu.	14. 47	14. 49	54. 15	54. 22	5209	5199
17	W.	14. 51	14. 54	54. 30	54. 40	5189	5175
18	Th.	14. 58	15. 1	54. 54	55. 8	5157	5138
19	F.	15. 6	15. 11	55. 25	55. 45	5116	5090
20	Sa.	15. 17	15. 23	56. 6	56. 29	5063	5033
21	*Su.*	15. 31	15. 38	56. 55	57. 22	5000	4966
22	M.	15. 46	15. 53	57. 50	58. 19	4931	4895
23	Tu.	16. 1	16. 9	58. 48	59. 16	4859	4824
24	W.	16. 17	16. 23	59. 44	60. 9	4790	4760
25	Th.	16. 30	16. 35	60. 33	60. 53	4732	4708
26	F.	16. 40	16. 43	61. 9	61. 22	4689	4673
27	Sa.	16. 45	16. 46	61. 30	61. 32	4664	4661
28	*Su.*	16. 45	16. 44	61. 30	61. 23	4664	4672
29	M.	16. 40	16. 36	61. 11	60. 55	4686	4705
30	Tu.	16. 31	16. 25	60. 36	60. 13	4728	4755

Diſtances of ☽'s Center from Sun, and from Stars eaſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Fomal-haut.	93. 14. 48	91. 29. 4	89. 43. 35	87. 58. 24	86. 13. 26	84. 28. 47	82. 44. 28	81. 0.29
2		79. 16. 50	77. 33. 33	75. 50. 40	74. 8. 10	72. 26. 4	70. 44. 23	69. 3. 10	67.22.24
3		65. 42. 6	64. 2. 16	62. 22. 57	60. 44. 10	59. 5. 56	57. 28. 11	55. 51. 3	54.14.30
4		52. 38. 42	51. 3. 28	49. 28. 56	47. 55. 5	46. 21. 55			
2	The Sun.	122. 8. 24	120. 27. 22	118. 46. 39	117. 6. 16	115. 26. 13	113. 46. 30	112. 7. 7	110.28. 5
3		108. 49. 24	107. 11. 4	105. 33. 6	103. 55. 28	102. 18. 12	100. 41. 17	99. 4. 43	97.28.29
4		95. 52. 36	94. 17. 4	92. 41. 52	91. 7. 0	89. 32. 28	87. 58. 17	86. 24. 26	84.50.54
5		83. 17. 42	81. 44. 49	80. 12. 14	78. 39. 58	77. 8. 1	75. 36. 22	74. 5. 1	72.33.57
6		71. 3. 11	69. 32. 41	68. 2. 27	66. 32. 30	65. 2. 49	63. 33. 25	62. 4. 16	60.35.22
7		59. 6. 44	57. 38. 19	56. 10. 7	54. 42. 10	53. 14. 26	51. 46. 56	50. 19. 38	48.52.33
8		47. 25. 41	45. 59. 0	44. 32. 31	43. 6. 13	41. 40. 6	40. 14. 11	38. 48. 26	
14	Pollux.	66. 14. 28	64. 45. 46	63. 17. 6	61. 48. 27	60. 19. 49	58. 51. 13	57. 22. 37	55.54. 1
15		54. 25. 24	52. 56. 48	51. 28. 11	49. 59. 33	48. 30. 55	47. 2. 15	45. 33. 34	44. 4.51
16		42. 36. 7							
16	Regulus.	79. 18. 49	77. 50. 7	76. 21. 21	74. 52. 32	73. 23. 40	71. 54. 46	70. 25. 42	68.56.35
17		67. 27. 23	65. 58. 5	64. 28. 40	62. 59. 8	61. 29. 28	59. 59. 41	58. 29. 44	56.59.40
18		55. 29. 26	53. 59. 4	52. 28. 31	50. 57. 48	49. 26. 54	47. 55. 48	46. 24. 31	44.53. 0

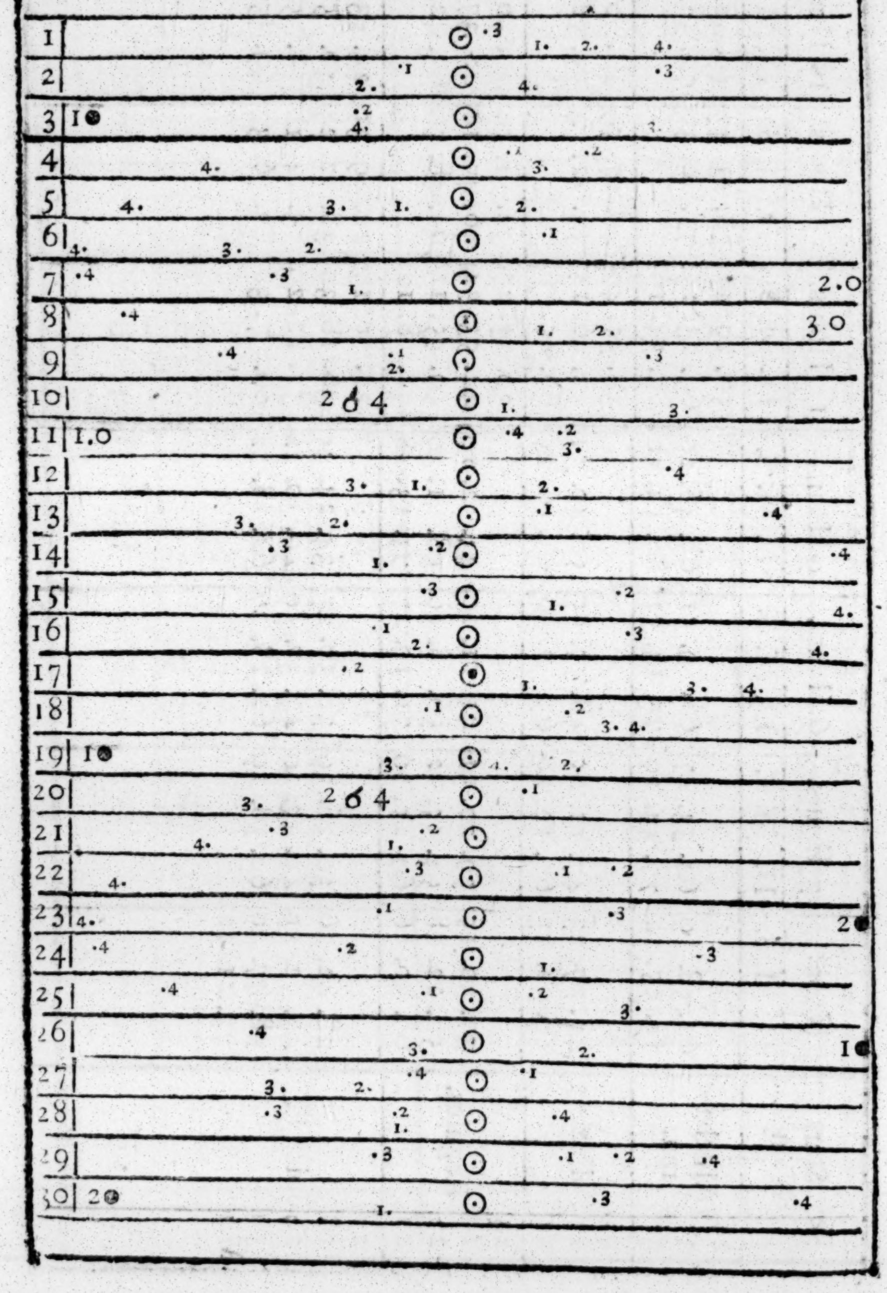
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
19	Regulus.	43. 21. 18	41. 49. 22	40. 17. 13	38. 44. 50	37. 12. 14	35. 39. 24	34. 6. 18	32. 32. 59
20		30. 59. 25	29. 25. 34	27. 51. 29	26. 17. 11	24. 42. 40	23. 7. 56	21. 33. 2	19. 57. 56
21		18. 22. 40							
21	Spica ♍	72. 7. 45	70. 30. 29	68. 52. 49	67. 14. 46	65. 36. 19	63. 57. 28	62. 18. 13	60. 38. 33
22		58. 58. 28	57. 17. 57	55. 37. 0	53. 55. 37	52. 13. 49	50. 31. 35	48. 48. 54	47. 5. 48
23		45. 22. 14	43. 38. 13	41. 53. 46	40. 8. 52	38. 23. 32	36. 37. 46	34. 51. 34	33. 4. 56
24		31. 17. 52							
24	Antares.	77. 9. 32	75. 21. 55	73. 33. 52	71. 45. 23	69. 56. 29	68. 7. 11	66. 17. 20	64. 27. 25
25		62. 36. 58	60. 46. 9	58. 55. 0	57. 3. 30	55. 11. 41	53. 19. 33	51. 27. 8	49. 34. 26
26		47. 41. 28	45. 48. 14	43. 54. 48	42. 1. 10	40. 7. 19	38. 13. 18	36. 19. 10	34. 24. 54
27		32. 30. 31							
27	α Aquilæ.	85. 55. 39	84. 21. 19	82. 47. 9	81. 13. 5	79. 39. 11	78. 5. 30	76. 32. 10	74. 59. 11
28		73. 26. 33	71. 54. 21	70. 22. 43	68. 51. 42	67. 21. 16	65. 51. 33	64. 22. 42	62. 54. 42
29		61. 27. 33							
29	Fomalhaut.	84. 55. 58	83. 8. 9	81. 20. 39	79. 33. 27	77. 46. 34	76. 0. 2	74. 13. 55	72. 28. 13
30		70. 42. 55	68. 58. 4	67. 13. 44	65. 29. 54	63. 46. 35	62. 3. 49	60. 21. 39	58. 40. 6
M 1		56. 59. 9							

Diſtances of ☽'s Center from Sun, and from Stars weſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1		35. 9. 42	37. 0. 19	38. 50. 41	40. 40. 46	42. 30. 35	44. 20. 7	46. 9. 21	47.58.17
2	Spica ♍	49. 46. 55	51. 35. 14	53. 23. 14	55. 10. 54	56. 58. 14	58. 45. 14	60. 31. 53	62.18.12
3		64. 4. 10	65. 49. 48	67. 35. 4	69. 20. 0	71. 4. 34			
3						25. 10. 34	26. 54. 50	28. 38. 44	30.22.18
4		32. 5. 30	33. 48. 22	35. 30. 53	37. 13. 5	38. 54. 55	40. 36. 26	42. 17. 37	43.58.28
5		45. 39. 0	47. 19. 12	48. 59. 6	50. 38. 41	52. 17. 57	53. 56. 56	55. 35. 37	57.14. 1
6		58. 52. 7	60. 29. 57	62. 7. 30	63. 44. 47	65. 21. 47	66. 58. 30	68. 34. 59	70.11.12
7	Antares.	71. 47. 10	73. 22. 56	74. 58. 27	76. 33. 45	78. 8. 49	79. 43. 38	81. 18. 15	82.52.39
8		84. 26. 50	86. 0. 50	87. 34. 39	89. 8. 16	90. 41. 42	92. 14. 57	93. 48. 1	95.20.55
9		96. 53. 38	98. 26. 12	99. 58. 36	101. 30. 51	103. 2. 57	104. 34. 54	106. 6. 42	107.38.22
10		109. 9. 53							
16		41. 4. 19	42. 25. 54	43. 47. 32	45. 9. 13	46. 30. 58	47. 52. 48	49. 14. 42	50.36.43
17		51. 58. 49	53. 21. 2	54. 43. 22	56. 5. 50	57. 28. 25	58. 51. 8	60. 13. 59	61.37. 0
18		63. 0. 9	64. 23. 29	65. 47. 1	67. 10. 44	68. 34. 38	69. 58. 44	71. 23. 3	72.47.36
19	The Sun.	74. 12. 22	75. 37. 23	77. 2. 39	78. 28. 10	79. 53. 57	81. 20. 0	82. 46. 23	84.12.59
20		85. 39. 55	87. 7. 10	88. 34. 43	90. 2. 37	91. 30. 50	92. 59. 24	94. 28. 19	95.57.36
21		97. 27. 14	98. 57. 15	100. 27. 39	101. 58. 27	103. 29. 39	105. 1. 14	106. 33. 14	108. 5.39
22		109. 38. 28	111. 11. 43	112. 45. 24	114. 19. 31	115. 54. 4	117. 29. 4	119. 4. 29	120.40.22

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
20	Aldebaran.					56. 39. 43	58. 13. 43	59. 48. 7	61. 22. 56
21		62. 58. 9	64. 33. 47	66. 9. 51	67. 46. 20	69. 23. 15	71. 0. 36	72. 38. 22	74. 16. 35
22		75. 55. 14	77. 34. 19	79. 13. 51	80. 53. 50	82. 34. 16			
22	Pollux.					38. 35. 46	40. 17. 59	42. 0. 40	43. 43. 48
23		45. 27. 23	47. 11. 25	48. 55. 55	50. 40. 51	52. 26. 14	54. 12. 4	55. 58. 21	57. 45. 3
24		59. 32. 13	61. 19. 48	63. 7. 49	64. 56. 15	66. 45. 6			
24	Regulus.					30. 13. 27	32. 1. 59	33. 50. 58	35. 40. 23
25		37. 30. 15	39. 20. 31	41. 11. 10	43. 2. 10	44. 53. 34	46. 45. 18	48. 37. 20	50. 29. 40
26		52. 22. 18	54. 15. 12	56. 8. 19	58. 1. 39	59. 55. 12	61. 48. 56	63. 42. 48	65. 36. 48
27		67. 30. 56	69. 25. 10	71. 19. 27	73. 13. 48	75. 8. 12			
27	Spica ♍					21. 5. 17	22. 59. 35	24. 53. 53	26. 48. 10
28		28. 42. 26	30. 36. 39	32. 30. 45	34. 24. 45	36. 18. 39	38. 12. 23	40. 5. 55	41. 59. 16
29		43. 52. 25	45. 45. 20	47. 37. 59	49. 30. 22	51. 22. 29	53. 14. 18	55. 5. 48	56. 56. 58
30		58. 47. 49	60. 38. 19	62. 28. 27	64. 18. 12	66. 7. 36	67. 56. 37	69. 45. 13	71. 33. 25
M. 1		73. 21. 12							

Configurations of the SATELLITES of JUPITER at Half an Hour paſt 3 o' Clock in the Morning.



Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	W.	*St. Philip & St. James.*
2	Th.	
3	F.	Invention of the Croſs.
4	Sa.	
5	*Su.*	*5th S. aft. Eaſt. Rog. Su.*
6	M.	John Ev. ante Port. Lat.
7	Tu.	[Eaſter Ter. 4 ret.
8	W.	
9	Th.	*Aſcenſion-day. H Thurſ.*
10	F.	Eaſter Ter. 5 ret.
11	Sa.	
12	*Su.*	*Sunday after Aſcenſion.*
13	M.	Eaſter Term ends.
14	Tu.	
15	W.	
16	Th.	Oxford Term ends.
17	F.	
18	Sa.	
19	*Su.*	*Whit-Sunday. Q. Char. b.*
20	M.	[Dunſtan.
21	Tu.	
22	W.	*Prs. Elizabeth born. Emb.*
23	Th.	[*Week.*
24	F.	
25	Sa.	
26	*Su.*	*Trin. Sund.* Auguſt. Abp.
27	M.	Ven. Bede. Tr. T. 1 ret.
28	Tu.	
29	W.	*K. Charles* II. *reſtored.*
30	Th.	[Oxford Term begins.
31	F.	Trinity Term begins.

Phaſes of the Moon.

	D. H. M.
Laſt Quarter —	3. 21. 12
New Moon —	11. 22. 11
Firſt Quarter —	19. 21. 7
Full Moon —	26. 12. 31

Other Phenomena.

D.
1. ☾ τ ♐ 12^h. 39′.
4. ☾ ε ♑ 3^h. 5′.
7. ☾ ♀ 21^h. 53′.
11. ☌ 132 ♉ diff. Lat. 4′.
11. ☾ δ ♈ 14^h. 10′.
12. ☾ d Pleiad. 8^h. 11′.
12. ☾ η Pleiad. 8^h. 46′.
14. ☾ β ♉ 6^h. 18′.
16. ☾ β ♊ 18^h. 54′.
17. ☾ 2 ad ψ ♋ 6^h. 30′.
19. ☾ η ♌ 12^h. 22′.
20. ⊙ enters ♊ at 12^h. 37′.
22. ☾ η ♍ 5^h. 23′.
25. ☾ 1 ad ι ♎ 8^h. 32′.
26. ☾ σ ♏ 10^h. 59′.
26. ☾ α ♏ 14^h. 5′.
28. ☾ τ ♐ 22^h. 14′.
31. ☾ ε ♑ 10^h. 42′.

MAY 1782.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Aſc. in Time.	Sun's Declin. North.	Equat. of Time. Sub.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	W.	1. 11. 10. 0	2. 34. 55,6	15. 11. 54	3. 10,1	7,3
2	Th.	1. 12. 8. 4	2. 38. 44,8	15. 29. 49	3. 17,4	6,8
3	F.	1. 13. 6. 8	2. 42. 34,5	15. 47. 29	3. 24,2	6,2
4	Sa.	1. 14. 4. 10	2. 46. 24,8	16. 4. 54	3. 30,4	5,7
5	*Su.*	1. 15. 2. 11	2. 50. 15,7	16. 22. 3	3. 36,1	5,1
6	M.	1. 16. 0. 11	2. 54. 7,1	16. 38. 56	3. 41,2	4,6
7	Tu.	1. 16. 58. 9	2. 57. 59,1	16. 55. 32	3. 45,8	3,8
8	W.	1. 17. 56. 6	3. 1. 51,8	17. 11. 52	3. 49,6	3,2
9	Th.	1. 18. 54. 2	3. 5. 45,1	17. 27. 54	3. 52,8	2,7
10	F.	1. 19. 51. 57	3. 9. 39,0	17. 43. 39	3. 55,5	2,1
11	Sa.	1. 20. 49. 50	3. 13. 33,4	17. 59. 7	3. 57,6	1,5
12	*Su.*	1. 21. 47. 42	3. 17. 28,5	18. 14. 16	3. 59,1	0,9
13	M.	1. 22. 45. 33	3. 21. 24,1	18. 29. 7	4. 0,0	0,4
14	Tu.	1. 23. 43. 21	3. 25. 20,3	18. 43. 39	4. 0,4	0,2
15	W.	1. 24. 41. 9	3. 29. 17,0	18. 57. 53	4. 0,2	0,7
16	Th.	1. 25. 38. 55	3. 33. 14,3	19. 11. 47	3. 59,5	1,3
17	F.	1. 26. 36. 38	3. 37. 12,1	19. 25. 22	3. 58,2	1,8
18	Sa.	1. 27. 34. 21	3. 41. 10,5	19. 38. 37	3. 56,4	2,3
19	*Su.*	1. 28. 32. 2	3. 45. 9,4	19. 51. 32	3. 54,1	2,9
20	M.	1. 29. 29. 41	3. 49. 8,9	20. 4. 6	3. 51,2	3,4
21	Tu.	2. 0. 27. 19	3. 53. 8,8	20. 16. 20	3. 47,8	4,0
22	W.	2. 1. 24. 56	3. 57. 9,4	20. 28. 14	3. 43,8	4,4
23	Th.	2. 2. 22. 30	4. 1. 10,4	20. 39. 46	3. 39,4	4,9
24	F.	2. 3. 20. 4	4. 5. 12,0	20. 50. 57	3. 34,5	5,5
25	Sa.	2. 4. 17. 36	4. 9. 14,0	21. 1. 47	3. 29,0	5,9
26	*Su.*	2. 5. 15. 6	4. 13. 16,4	21. 12. 15	3. 23,1	6,4
27	M.	2. 6. 12. 36	4. 17. 19,4	21. 22. 21	3. 16,7	6,9
28	Tu.	2. 7. 10. 5	4. 21. 22,9	21. 32. 5	3. 9,8	7,3
29	W.	2. 8. 7. 32	4. 25. 26,8	21. 41. 26	3. 2,5	7,8
30	Th.	2. 9. 4. 58	4. 29. 31,1	21. 50. 25	2. 54,7	8,3
31	F.	2. 10. 2. 24	4. 33. 35,9	21. 59. 2	2. 46,4	

Days.	Semidiameter of the Sun.	Time of D° paſſing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Diſtance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	15. 54,5	1. 5,9	2. 25,3	0,003744	0. 14. 59
7	15. 53,2	1. 6,4	2. 24,9	0,004373	0. 14. 40
13	15. 52,0	1. 6,9	2. 24,6	0,004945	0. 14. 21
19	15. 50,8	1. 7,4	2. 24,2	0,005440	0. 14. 2
25	15. 49,8	1. 7,8	2. 23,9	0,005878	0. 13. 43

Eclipſes of the SATELLITES of JUPITER.

I. Satellite.
Immerſions.

Days	H. M. S.
*2	16. 10. 45
*4	10. 39. 19
6	5. 7. 53
7	23. 36. 27
9	18. 4. 59
*11	12. 33. 30
13	7. 2. 1
15	1. 30. 30
16	19. 58. 37
*18	14. 27. 23
20	8. 55. 48
22	3. 24. 11
23	21. 52. 33
25	16. 20. 54
*27	10. 49. 14
29	5. 17. 33
30	23. 45. 52

II. Satellite.
Immerſions.

Days	H. M. S.
3	4. 45. 18
6	18. 2. 43
10	7. 20. 3
13	20. 37. 9
*17	9. 54. 13
20	23. 11. 4
*24	12. 27. 50
28	1. 44. 31
*31	15. 1. 2

III. Satellite.
Immerſions.

Days	H. M. S.
*2	10. 44. 51
*9	14. 43. 23
16	18. 41. 32
23	22. 39. 21
31	2. 36. 53

IV. Satellite. Conj.

*5	10. 7	Sup.
13	19. 31	Inf.
22	1. 4	Sup.

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Paſſage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
MERCURY. Sup. ☌ 21^{d}. $22^{h}\frac{1}{4}$.						
1	10. 17. 38	7. 0 S	0. 20. 16	2. 31 S	5. 35 N	22. 46
4	10. 28. 57	6. 49	0. 25. 20	2. 16	7. 42	22. 54
7	11. 11. 16	6. 19	1. 0. 42	1. 57	9. 54	23. 2
10	11. 24. 45	5. 27	1. 6. 20	1. 34	12. 10	23. 12
13	0. 9. 31	4. 9	1. 12. 17	1. 6	14. 29	23. 23
16	0. 25. 39	2. 25	1. 18. 28	0. 36	16. 46	23. 36
19	1. 13. 4	0. 20 S	1. 24. 53	0. 5 S	18. 56	23. 50
22	2. 1. 29	1. 54 N	2. 1. 26	0. 27 N	20. 55	0. 0
25	2. 20. 24	4. 0	2. 8. 2	0. 56	22. 36	0. 15
28	3. 9. 9	5. 38	2. 14. 31	1. 22	23. 55	0. 31
31	3. 27. 8	6. 38	2. 20. 50	1. 43	24. 51	0. 46
VENUS. Gr. Elong. 27^{d}.						
1	8. 7. 4	0. 27 N	11. 29. 29	0. 41 N	0. 25 N	21. 21
7	8. 16. 35	0. 7 S	0. 3. 32	0. 9 S	1. 17	21. 14
13	8. 26. 6	0. 40	0. 8. 5	0. 51	2. 26	21. 9
19	9. 5. 36	1. 12	0. 13. 6	1. 26	3. 51	21. 5
25	9. 15. 5	1. 43	0. 18. 31	1. 54	5. 30	21. 2
MARS.						
1	3. 9. 36	1. 27 N	2. 17. 37	1. 1 N	23. 54 N	2. 31
7	3. 12. 24	1. 30	2. 21. 31	1. 2	24. 14	2. 25
13	3. 15. 13	1. 33	2. 25. 25	1. 4	24. 27	2. 18
19	3. 18. 0	1. 36	2. 29. 19	1. 5	24. 32	2. 11
25	3. 20. 45	1. 39	3. 3. 12	1. 6	24. 31	2. 5
JUPITER.						
1	8. 20. 33	0. 25 N	8. 28. 39	0. 29 N	22. 59 S	15. 17
7	8. 21. 2	0. 24	8. 28. 17	0. 28	22. 59	14. 52
13	8. 21. 31	0. 24	8. 27. 51	0. 28	22. 59	14. 27
19	8. 22. 1	0. 23	8. 27. 20	0. 28	22. 59	14. 1
25	8. 22. 30	0. 22	8. 26. 42	0. 27	22. 58	13: 34
SATURN.						
1	8. 26. 38	1. 4 N	9. 1. 2	1. 9 N	22. 19 S	15. 27
7	8. 26. 49	1. 4	9. 0. 48	1. 9	22. 19	15. 4
13	8. 27. 0	1. 3	9. 0. 31	1. 9	22. 19	14. 39
19	8. 27. 10	1. 3	9. 0. 12	1. 9	22. 19	14. 14
5	8. 27. 29	1. 2	8. 29. 50	1. 9	22. 19	13. 48

MAY 1782.

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D.M.S.
1	W.	9. 4. 16. 30	9. 11. 25. 29	5. 8. 4 S	5.13.35 S
2	Th.	9. 18. 27. 43	9. 25. 23. 6	5. 14. 17	5.10.23
3	F.	10. 2. 11. 40	10. 8. 53. 35	5. 2. 9	4.49.53
4	Sa.	10. 15. 29. 6	10. 21. 58. 34	4. 33. 57	4.14.43
5	*Su.*	10. 28. 22. 26	11. 4. 41. 9	3. 52. 34	3.27.53
6	M.	11, 10. 55. 16	11. 17. 5. 16	3. 1. 0	2.32.18
7	Tu.	11. 23. 11. 40	11. 29. 15. 1	2. 2. 8	1.30.51
8	W.	0, 5. 15. 45	0. 11. 14. 22	0. 58. 48 S	0.26.19 S
9	Th.	0, 17. 11. 18	0. 23. 6. 59	0. 6. 16 N	0.38.39 N
10	F.	0, 29. 1. 46	1. 4. 55. 59	1. 10. 30	1.41.29
11	Sa.	1. 10, 49. 50	1. 16. 43. 59	2. 11. 20	2.39.44
12	*Su.*	1. 22. 38. 18	1. 28. 33. 9	3. 6. 25	3.31. 5
13	M.	2. 4, 28. 46	2. 10. 25. 23	3. 53. 30	4.13.25
14	Tu.	2. 16. 23. 13	2. 22. 22. 31	4. 30. 38	4.44.56
15	W.	2. 28. 23. 31	3. 4. 26. 30	4. 56. 9	5. 4. 6
16	Th.	3. 10. 31. 44	3. 16. 39. 33	5. 8. 40	5. 9.45
17	F.	3. 22. 50. 15	3. 29. 4. 12	5. 7. 15	5. 1. 6
18	S.	4. 5. 21. 47	4. 11. 43. 23	4. 51. 16	4.37.46
19	*Su.*	4. 18. 9. 23	4. 24. 40. 10	4. 20. 37	3.59.54
20	M.	5. 1. 16. 7	5. 7. 57. 35	3. 35. 45	3. 8.19
21	Tu.	5. 14. 44. 50	5. 21. 38. 13	2. 37. 51	2. 4.39
22	W.	5. 28. 37. 45	6. 5. 43. 31	1, 29. 6	0.51.41
23	Th.	6. 12. 55. 25	6. 20, 13. 11	0. 12. 56 N	0.26.32
24	F.	6. 27. 36. 23	7. 5. 4. 24	1. 5. 59 S	1.44.42
25	Sa.	7. 12. 36. 22	7. 20. 11. 17	2. 21. 53	2.56.46
26	*Su.*	7. 27. 47. 59	8. 5. 25. 10	3. 28. 35	3.56.41
27	M.	8. 13. 1. 29	8. 20. 35. 37	4. 20. 30	4.39.36
28	Tu.	8. 28. 6. 16	9. 5. 32. 18	4. 53. 42	5. 2.40
29	W.	9. 12. 52. 44	9. 20. 6. 48	5. 6. 31	5. 5.22
30	Th.	9. 27. 13. 55	10. 4. 13. 43	4. 59. 29	4.49.12
31	F.	10. 11. 6. 6	10. 17. 51. 8	4. 34. 53	4.16.55

MAY 1782.

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Paſſage over Merid.	☽'s Right Aſcenſ. at Noon.	☽'s Right Aſc. at Midn.	☽'s Declination at Noon.	☽'s Declination at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	W.	20	16. 26	274. 51	282. 56	28. 32 S	28. 11 S
2	Th.	21	17. 25	290. 48	298. 24	27. 23	26. 10
3	F.	22	18. 19	305. 43	312. 43	24. 35	22. 42
4	Sa.	23	19. 8	319. 24	325. 48	20. 34	18. 13
5	*Su.*	24	19. 53	331. 56	337. 51	15. 41	13. 1
6	M.	25	20. 35	343. 34	349. 8	10. 16	7. 26
7	Tu.	26	21. 15	354. 34	359. 55	4. 34 S	1. 41 S
8	W.	27	21. 54	5. 13	10. 30	1. 12 N	4. 3 N
9	Th.	28	22. 34	15. 48	21. 8	6. 51	9. 35
10	F.	29	23. 16	26. 33	32. 4	12. 14	14. 46
11	Sa.	1	☌	37. 43	43. 29	17. 10	19. 24
12	*Su.*	2	0. 1	49. 22	55. 27	21. 27	23. 17
13	M.	3	0. 47	61. 43	68. 7	24. 53	26. 13
14	Tu.	4	1. 37	74. 42	81. 24	27. 15	27. 59
15	W.	5	2. 29	88. 11	95. 2	28. 23	28. 27
16	Th.	6	3. 21	101. 55	108. 47	28. 10	27. 32
17	F.	7	4. 14	115. 37	122. 22	26. 34	25. 16
18	Sa.	8	5. 5	129. 1	135. 34	23. 39	21. 44
19	*Su.*	9	5. 54	142. 1	148. 22	19. 32	17. 5
20	M.	10	6. 42	154. 37	160. 49	14. 24	11. 31
21	Tu.	11	7. 29	166. 59	173. 9	8. 27	5. 14 N
22	W.	12	8. 16	179. 20	185. 35	1. 55 N	1. 29 S
23	Th.	13	9. 5	191. 58	198. 30	4. 55 S	8. 20
24	F.	14	9. 58	205. 13	212. 11	11. 40	14. 52
25	Sa.	15	10. 54	219. 24	226. 54	17. 53	20. 39
26	*Su.*	16	11. 56	234. 41	242. 43	23. 5	25. 7
27	M.	17	13. 1	250. 59	259. 23	26. 42	27. 47
28	Tu.	18	14. 7	267. 51	276. 17	28. 21	28. 23
29	W.	19	15. 10	284. 40	292. 36	27. 56	26. 58
30	Th.	20	16. 8	300. 22	307. 49	25. 38	23. 54
31	F.	21	17. 1	314. 56	321. 41	21. 52	19. 34

Days of the Month.	Days of the Week.	Semid^{r}. ☽ at Noon.	Semid^{r}. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	W.	16. 18	16. 9	59. 49	59. 22	4784	4817
2	Th.	16. 3	15. 56	58. 55	58. 27	4850	4885
3	F.	15. 48	15. 41	58. 0	57. 33	4918	4952
4	Sa.	15. 34	15. 27	57. 7	56. 43	4985	5015
5	*Su.*	15. 21	15. 15	56. 20	55. 59	5045	5072
6	M.	15. 10	15. 5	55. 40	55. 22	5097	5120
7	Tu.	15. 1	14. 57	55. 7	54. 53	5140	5158
8	W.	14. 54	14. 51	54. 41	54. 31	5174	5187
9	Th.	14. 49	14. 47	54. 23	54. 16	5198	5207
10	F.	14. 46	14. 45	54. 11	54. 7	5214	5219
11	Sa.	14. 44	14. 44	54. 5	54. 4	5222	5223
12	*Su.*	14. 44	14. 45	54. 5	54. 7	5222	5219
13	M.	14. 46	14. 47	54. 11	54. 14	5214	5210
14	Tu	14. 48	14. 51	54. 20	54. 28	520[illegible]	5191
15	W.	14. 53	14. 56	54. 38	54. 48	5178	5165
16	Th.	14. 59	15. 3	55. 0	55. 14	5149	5130
17	F.	15. 7	15. 12	55. 29	55. 46	5111	5089
18	Sa.	15. 17	15. 23	56. 5	56. 26	5064	5037
19	*Su.*	15. 29	15. 35	56. 49	57. 13	5008	4977
20	M.	15. 43	15. 49	57. 39	58. 4	4945	4913
21	Tu.	15. 56	16. 4	58. 30	58. 57	4881	4848
22	W.	16. 11	16. 17	59. 23	59. 47	4816	4787
23	Th.	16. 24	16. 29	60. 13	60. 32	4755	4733
24	F.	16. 35	16. 39	60. 52	61. 7	4709	4691
25	Sa.	16. 42	16. 44	61. 18	61. 26	4678	4669
26	*Su.*	16. 45	16. 44	61. 27	61. 24	4668	4671
27	M.	16. 42	16. 38	61. 16	61. 4	4680	4694
28	Tu.	16. 34	16. 28	60. 47	60. 27	4715	4739
29	W.	16. 22	16. 15	60. 4	59. 38	4766	4798
30	Th.	16. 7	15. 59	59. 9	58. 42	4833	4866
31	F.	15. 52	15. 44	58. 13	57. 45	4902	4937

Diſtances of ☽'s Center from Sun, and from Stars eaſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Fomal-haut.	56. 59. 8	55. 18. 54	53. 39. 19	52. 0. 25	50. 22. 16	48. 44. 56	47. 8. 27	45. 32. 54
2		43. 58. 19	42. 24. 47	40. 52. 19	39. 21. 0	37. 50. 52	36. 21. 59	34. 54. 22	33. 28. 5
3		32. 3. 13							
1	The Sun.					120. 5. 13	118. 26. 47	116. 48. 46	115. 11. 11
2		113. 34. 2	111. 57. 18	110. 21. 0	108. 45. 6	107. 9. 38	105. 34. 35	103. 59. 57	102. 25. 43
3		100. 51. 53	99. 18. 28	97. 45. 27	96. 12. 49	94. 40. 34	93. 8. 42	91. 37. 13	90. 6. 5
4		88. 35. 20	87. 4. 56	85. 34. 53	84. 5. 11	82. 35. 49	81. 6. 48	79. 38. 5	78. 9. 42
5		76. 41. 37	75. 13. 50	73. 46. 20	72. 19. 8	70. 52. 12	69. 25. 33	67. 59. 9	66. 33. 0
6		65. 7. 7	63. 41. 28	62. 16. 3	60. 50. 51	59. 25. 53	58. 1. 8	56. 36. 35	55. 12. 14
7		53. 48. 4	52. 24. 5	51. 0. 16	49. 36. 38	48. 13. 10	46. 49. 52	45. 26. 44	44. 3. 45
8		42. 40. 55							
14	Regulus.	70. 26. 39	68. 57. 20	67. 27. 58	65. 58. 31	64. 28. 59	62. 59. 22	61. 29. 39	59. 59. 51
15		58. 29. 57	56. 59. 56	55. 29. 48	53. 59. 34	52. 29. 12	50. 58. 44	49. 28. 7	47. 57. 23
16		46. 26. 31	44. 55. 30	43. 24. 21	41. 53. 2	40. 21. 35	38. 49. 58	37. 18. 12	35. 46. 16
17		34. 14. 10	32. 41. 54	31. 9. 29	29. 36. 54	28. 4. 9	26. 31. 15	24. 58. 12	23. 25. 0
18		21. 51. 38							

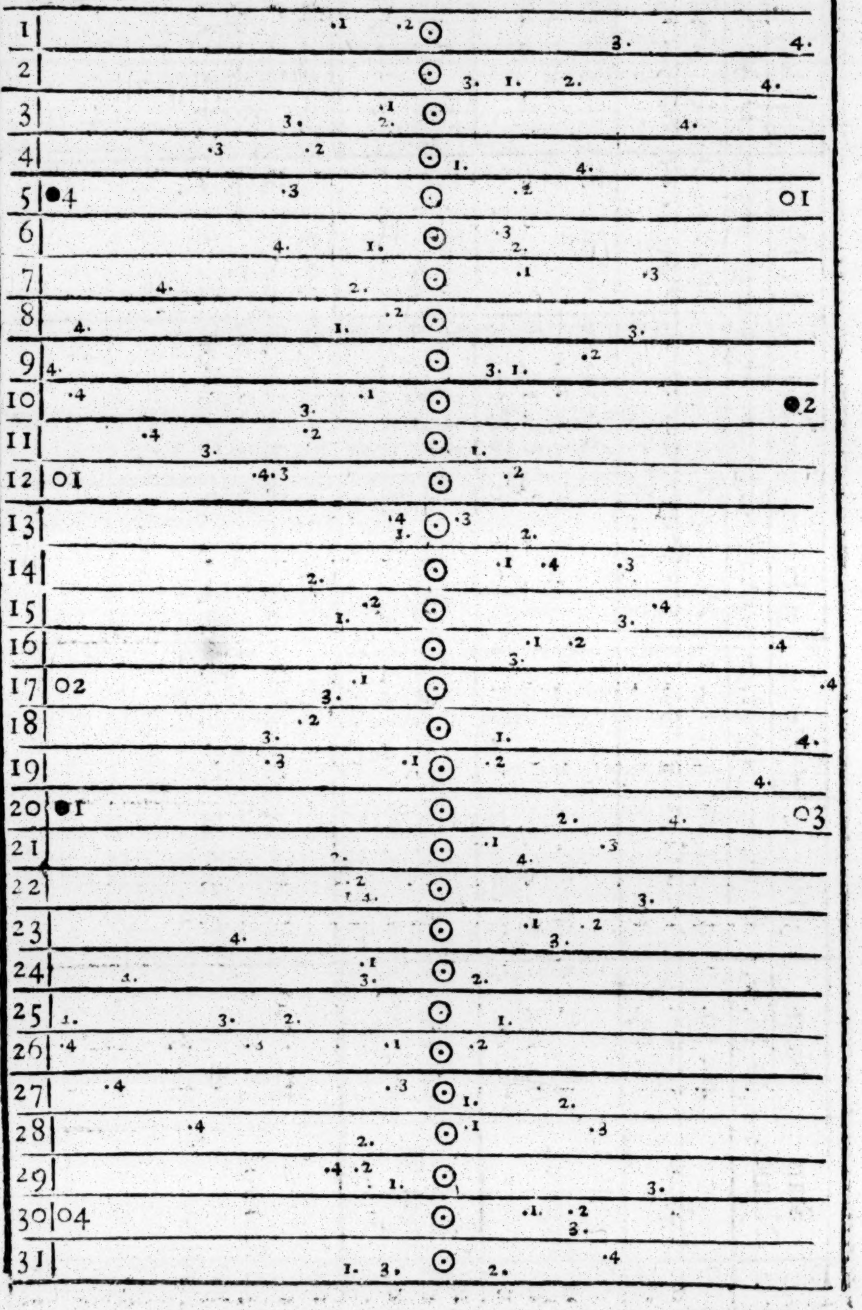
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
18	Spica ♍	75. 41. 16	74. 6. 35	72. 31. 38	70. 56. 24	69. 20. 53	67. 45. 5	66. 8. 58	64.32.34
19		62. 55. 51	61. 18. 49	59. 41. 27	58. 3. 46	56. 25. 45	54. 47. 23	53. 8. 40	51.29.35
20		49. 50. 9	48. 10. 21	46. 30. 10	44. 49. 37	43. 8. 42	41. 27. 25	39. 45. 44	38. 3.40
21		36. 21. 13	34. 38. 20	32. 55. 4	31. 11. 24	29. 27. 21	27. 42. 55	25. 58. 5	24.12.53
22		22. 27. 19							
22	Antares.	68. 18. 29	66. 32. 16	64. 45. 38	62. 58. 37	61. 11. 11	59. 23. 22	57. 35. 9	55.46.34
23		53. 57. 36	52. 8. 15	50. 18. 33	48. 28. 30	46. 38. 6	44. 47. 21	42. 56. 17	41. 4.54
24		39. 13. 13	37. 21. 14	35. 28. 59	33. 36. 29	31. 43. 43	29. 50. 44	27. 57. 32	26. 4. 9
25		24. 10. 35	22. 16. 52	20. 23. 2	18. 29. 5	16. 35. 1	14. 40. 54	12. 46. 43	10.52.31
26		8. 58. 18							
26	Fomal-haut.	91. 32. 21	89. 34. 14	87. 54. 10	86. 5. 10	84. 16. 16	82. 27. 29	80. 38. 53	78.50.27
27		77. 2. 12	75. 14. 12	73. 26. 30	71. 39. 7	69. 52. 1	68. 5. 17	66. 18. 58	64.33. 5
28		62. 47. 39	61. 2. 43	59. 18. 21	57. 34. 35	55. 51. 23	54. 8. 50	52. 26. 59	50.45.53
29		49. 5. 35	47. 26. 5	45. 47. 30	44. 9. 55	42. 33. 21	40. 57. 50	39. 23. 30	37.50.31
30		36. 18. 59	34. 49. 0	33. 20. 40	31. 54. 6	30. 29. 24			
30	α Arietis.					91. 12. 44	89. 30. 18	87. 48. 19	86. 6.47
31		84. 25. 42	82. 45. 2	81. 4. 49	79. 25. 2	77. 45. 41	76. 6. 46	74. 28. 16	72.50.11
J. 1		71. 12. 32							

Diſtances of ☽'s Center from Sun, and from Stars weſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Antares.	27.27. 8	29.14.34	31. 1.35	32.48.11	34.34.21	36.20. 6	38. 5.25	39.50.19
2		41.34.47	43.18.49	45. 2.27	46.45.39	48.28.26	50.10.47	51.52.44	53.34.17
3		55.15.25	56.56. 9	58.36.30	60.16.28	61.56. 2	63.35.12	65.14. 1	66.52.27
4		68.30.31	70. 8.14	71.45.36	73.22.37	74.59.18	76.35.38	78.11.39	79.47.21
5		81.22.45	82.57.52	84.32.42	86. 7.16	87.41.33	89.15.33	90.49.18	92.22.48
6		93.56. 3	95.29. 3	97. 1.49	98.34.22	100. 6.41			
6	α Aquilæ.					56. 9.46	57.17.38	58.26. 3	59.35. 0
7		60.44.26	61.54.19	63. 4.37	64.15.17	65.26.18	66.37.36	67.49.10	69. 0.59
8		70.13. 4	71.25.21	72.37.48	73.50.25	75. 3.12	76.16. 7	77.29. 8	79.42.15
9		79.55.28	81. 8.45	82.22. 5	83.35.28	84.48.53	86. 2.19	87.15.46	88.29.12
10		89.42.37							
15	The Sun.					39.32.54	40.56. 7	42.19.29	43.43. 0
16		45. 6.43	46.30.35	47.54.38	49.18.51	50.43.15	52. 7.50	53.32.38	54.57.37
17		56.22.48	57.48.11	59.13.48	60.39.39	62. 5.43	63.32. 1	64.58.35	66.25.24
18		67.52.28	69.19.48	70.47.25	72.15.19	73.43.29	75.11.57	76.40.43	78. 9.47
19		79.39.10	81. 8.52	82.38.53	84. 9.14	85.39.56	87.10.59	88.42.22	90.14. 7
20		91.46.14	93.18.42	94.51.33	96.24.46	97.58.21	99.32.19	101. 6.41	102.41.27
21		104.16.36	105.52. 8	107.28. 4	109. 4.26	110.41.14	112.18.21	113.55.53	115.33.51
22		117.12.14							

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
20		40. 59. 31	42. 39. 18	44. 19. 29	46. 0. 1	47. 40. 57	49. 22. 16	51. 3. 58	52.46. 5
21	Pollux.	54. 28. 35	56. 11. 31	57. 54. 51	59. 38. 36	61. 22. 45	63. 7. 18	64. 52. 15	66.37.37
22		68. 23. 23	70. 9. 34	71. 56. 8	73. 43. 8	75. 30. 32			
22						38. 55. 14	40. 42. 33	42. 30. 18	44.18.29
23	Regulus.	46. 7. 4	47. 56. 4	49. 45. 26	51. 35. 10	53. 25. 17	55. 15. 45	57. 6. 32	58.57.39
24		60. 49. 5	62. 40. 50	64. 32. 50	66. 25. 7	68. 17. 40	70. 10. 27	72. 3. 26	73.56.37
25		75. 50. 0	77. 43. 32	79. 37. 12	81. 31. 0	83. 24. 55			
25						29. 21. 46	31. 15. 50	33. 9. 58	35. 4. 9
26	Spica ♍	36. 58. 22	38. 52. 36	40. 46. 47	42. 40. 57	44. 35. 4	46. 29. 6	48. 23. 2	50.16.50
27		52. 10. 31	54. 4. 1	55. 57. 20	57. 50. 28	57. 43. 24	61. 36. 5	63. 28. 30	65.20.35
28		67. 12. 32	69. 4. 6	70. 55. 21	72. 46. 15	74. 36. 48			
28						28. 42. 32	30. 32. 46	32. 22. 38	34.12. 7
29		36. 1. 12	37. 49. 53	39. 38. 10	41. 26. 2	43. 13. 30	45. 0. 31	46. 47. 7	48.33.16
30	Antares.	50. 18. 59	52. 4. 14	53. 49. 2	55. 33. 24	57. 17. 19	59. 0. 47	60. 43. 49	62.26.24
31		64. 8. 33	65. 50. 15	67. 31. 31	69. 12. 21	70. 52. 46	72. 32. 45	74. 12. 19	75.51.27
J. 1		77. 30. 11							

Configurations of the SATELLITES of JUPITER at 11 o'Clock at Night.



JUNE 1782.

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	Sa.	Nicomede.
2	*Su.*	*1ſt Sunday after Trinity.*
3	M.	In 8 days of H. Tr. 2 ret.
4	Tu.	*K. Geo.* III. *born* 1738.
5	W.	Boniface. *Pr. Ern. Aug.*
6	Th.	[*born.*
7	F.	
8	Sa.	
9	*Su.*	*2d Sunday after Trinity.*
10	M.	*Prs. Amel. bo.* In 15 days of
11	Tu.	*St. Barn.* [H. Trin. 3 ret.
12	W.	
13	Th.	
14	F.	
15	Sa.	
16	*Su.*	*3d Sunday after Trinity.*
17	M.	S. Alban. In 3 w. of H.
18	Tu.	[Trin. 4 ret.
19	W.	Trinity Term ends.
20	Th.	Tranſl. Edw. K. of W. Sax
21	F.	
22	Sa.	
23	*Su.*	*4th Sunday after Trinity.*
24	M.	*Nativity of St. John Bapt.*
25	Tu.	
26	W.	
27	Th.	
28	F.	
29	Sa.	*St. Peter.*
30	*Su.*	*5th Sunday after Trinity.*

Phaſes of the Moon.	D.	H.	M.
Laſt Quarter –	2.	9.	19
New Moon —	10.	13.	25
Firſt Quarter –	18.	4.	52
Full Moon —	24.	19.	32

Other Phenomena.

D.	
2.	☾ 1 ad ψ ♒ 11^{h}. 5′.
5.	☾ ζ ♓ 5^{h}. 19′.
7.	☾ δ ♈ 20^{h}. 14′.
8.	☿ ε ♊ diff. Lat. 1′.
	☾ η Pleiadum 14^{h}. 48′.
10.	☾ β ♉ 12^{h}. 12′.
12.	☾ ι ♊ 16^{h}. 5′.
13.	☾ 2 ad ψ ♋ 12^{h}. 0′.
14.	☌ ☿ ♂ diff. Lat. 39′.
15.	☾ η ♌ 18^{h}. 4′.
17.	☾ σ ♌ 7^{h}. 59′.
	☾ β ♍ 22^{h}. 57′.
18.	☾ η ♍ 12^{h}. 30′.
19.	☾ α ♍ 21^{h}. 6′.
20.	☉ enters ♋ at 21^{h}. 21′.
21.	☾ 1 ad ι ♎ 18^{h}. 1′.
22.	☾ σ ♏ 21^{h}. 6′.
23.	☾ α ♏ 0^{h}. 12′.
25.	☾ φ ♐ 1^{h}. 1′.
	☾ τ ♐ 8^{h}. 36′.
27.	☾ ε ♑ 20^{h}. 1′.

JUNE 1782. II.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. North.	Equat. of Time. Sub.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	Sa.	2. 10. 59. 50	4.37.41,2	22. 7. 16	2. 37,8	9,1
2	*Su.*	2. 11. 57. 15	4.41.46,9	22. 15. 7	2. 28,7	9,6
3	M.	2. 12. 54. 40	4.45.53,1	22. 22. 35	2. 19,1	10,0
4	Tu.	2. 13. 52. 4	4.49.59,6	22. 29. 39	2. 9,1	10,3
5	W.	2. 14. 49. 27	4.54. 6,5	22. 36. 19	1. 58,8	10,6
6	Th.	2. 15. 46. 50	4.58.13,7	22. 42. 36	1. 48,2	11,0
7	F.	2. 16. 44. 12	5. 2.21,2	22. 48. 29	1. 37,2	11,2
8	Sa.	2. 17. 41. 34	5. 6.29,0	22. 53. 59	1. 26,0	11,6
9	*Su.*	2. 18. 38. 56	5.10.37,2	22. 59. 4	1. 14,4	11,9
10	M.	2. 19. 36. 17	5.14.45,7	23. 3. 44	1. 2,5	12,0
11	Tu.	2. 20. 33. 37	5.18.54,3	23. 8. 1	0. 50,5	12,2
12	W.	2. 21. 30. 56	5.23. 3,1	23. 11. 53	0. 38,3	12,4
13	Th.	2. 22. 28. 15	5.27.12,1	23. 15. 21	0. 25,9	12,6
14	F.	2. 23. 25. 33	5.31.21,3	23. 18. 25	0. 13,3	12,8
15	Sa.	2. 24. 22. 51	5.35.30,6	23. 21. 2	0. 0,5	12,8
16	*Su.*	2. 25. 20. 7	5.39.40,0	23. 23. 16	Ad: 12,3	12,9
17	M.	2. 26. 17. 23	5.43.49,5	23. 25. 5	0. 25,2	12,9
18	Tu.	2. 27. 14. 38	5.47.59,0	23. 26. 29	0. 38,1	12,9
19	W.	2. 28. 11. 52	5.52. 8,5	23. 27. 28	0. 51,0	12,9
20	Th.	2. 29. 9. 5	5.56.18,0	23. 28. 2	1. 3,9	12,9
21	F.	3. 0. 6. 18	6. 0.27,5	23. 28. 12	1. 16,8	12,8
22	Sa.	3. 1. 3. 30	6. 4.36,9	23. 27. 57	1. 29,6	12,8
23	*Su.*	3. 2. 0. 42	6. 8.46,3	23. 27. 16	1. 42,4	12,7
24	M.	3. 2. 57. 53	6.12.55,6	23. 26. 12	1. 55,1	12,6
25	Tu.	3. 3. 55. 4	6.17. 4,8	23. 24. 43	2. 7,7	12,5
26	W.	3. 4. 52. 15	6.21.13,9	23. 22. 49	2. 20,2	12,4
27	Th.	3. 5. 49. 26	6.25.22,9	23. 20. 30	2. 32,6	12,3
28	F.	3. 6. 46. 37	6.29.31,7	23. 17. 47	2. 44,9	12,0
29	Sa.	3. 7. 43. 48	6.33.40,3	23. 14. 39	2. 56,9	11,7
30	*Su.*	3. 8. 40. 59	6.37.48,6	23. 11. 7	3. 8,6	

Days.	Semidiameter of the Sun.	Time of D° paſſing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Diſtance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	15. 48,8	1. 8,3	2. 23,6	0. 006336	0. 13. 21
7	15. 48,2	1. 8,6	2. 23,4	0. 006675	0. 13. 1
13	15. 47,5	1. 8,7	2. 23,2	0. 006922	0. 12. 42
19	15. 47,1	1. 8,8	2. 23,0	0. 007081	0. 12. 23
25	15. 46,9	1. 8,8	2. 23,0	0. 007174	0. 12. 4

Eclipses of the Satellites of JUPITER.

I. Satellite. Immerſions.

Days	H. M. S.
1	18. 14. 10
3	12*42. 26
5	7. 10. 44
7	1. 38. 59
8	20. 7. 15
10	14*35. 30
12	9. 3. 44
14	3. 31. 57
	Emerſions.
16	0. 11. 6
17	18. 39. 23
19	13* 7. 41
21	7. 35. 59
23	2. 4. 17
24	20. 32. 37
26	15. 0. 56
28	9*29. 16
30	3. 57. 37

II. Satellite. Immerſions.

Days	H. M. S.
4	4. 17. 34
7	17. 33. 52
11	6. 50. 19
	Emerſions.
14	22. 43. 47
18	12* 0. 15
22	1. 16. 46
25	14. 33. 18
29	3. 49. 50

III. Satellite.

Days.	H. M. S.	
7	6. 34. 7	I
7	9. 13. 50	E
14	10*31. 21	I
14	13*12. 16	E
21	14. 28. 53	I
21	17. 10. 48	E
28	18. 26. 21	I
28	21. 9. 26	E

IV. Satellite.

Days.	H. M. S.	
7	13*19. 28	I
7	14* 0. 15	E
24	7. 5. 25	I
24	8. 12. 14	E

Days.	Heliocentric Longitude. S. D. M.	Heliocentric Latitude. D. M.	Geocentric Longitude. S. D. M.	Geocentric Latitude. D. M.	Declination. D. M.	Passage over Merid. H. M.
			MERCURY. Gr. Elong. 24^d.			
1	4. 2. 54	6. 50 N	2. 22. 51	1. 47 N	25. 4 N	0. 51
4	4. 19. 12	6. 59	2. 28. 46	1. 59	25. 27	1. 4
7	5. 4. 4	6. 39	3. 4. 19	2. 4	25. 28	1. 17
10	5. 17. 33	5. 57	3. 9. 31	2. 2	25. 10	1. 27
13	5. 29. 50	5. 2	3. 14. 19	1. 53	24. 35	1. 35
16	6. 11. 3	4. 0	3. 18. 45	1. 39	23. 47	1. 42
19	6. 21. 25	2. 54	3. 22. 46	1. 19	22. 50	1. 47
22	7. 1. 6	1. 47	3. 26. 21	0. 53	21. 46	1. 50
25	7. 10. 16	0. 40 N	3. 29. 30	0. 22 N	20. 38	1. 50
28	7. 19. 2	0. 24 S	4. 2. 10	0. 14 S	19. 28	1. 48
30	7. 24. 43	1. 6	4. 3. 39	0. 40	18. 43	1. 45
			VENUS.			
1	9. 26. 8	2. 15 S	0. 25. 12	2. 16 S	7. 39 N	20. 59
7	10. 5. 37	2. 38	1. 1. 10	2. 29	9. 34	20. 58
13	10. 15. 6	2. 57	1. 7. 18	2. 38	11. 28	20. 56
19	10. 24. 36	3. 11	1. 13. 35	2. 41	13. 22	20. 56
25	11. 4. 6	3. 20	1. 20. 1	2. 40	15. 12	20. 56
			MARS.			
1	3. 23. 58	1. 41 N	3. 7. 42	1. 7 N	24. 21 N	1. 56
7	3. 26. 42	1. 43	3. 11. 34	1. 8	24. 5	1. 48
13	3. 29. 24	1. 45	3. 15. 25	1. 8	23. 43	1. 40
19	4. 2. 6	1. 47	3. 19. 15	1. 9	23. 14	1. 32
25	4. 4. 47	1. 48	3. 23. 5	1. 9	22. 39	1. 23
			JUPITER. ☍ 14^d. 18^h.			
1	8. 23. 1	0. 21 N	8. 25. 50	0. 26 N	22. 58 S	13. 3
7	8. 23. 30	0. 21	8. 25. 6	0. 26	22. 57	12. 35
13	8. 23. 59	0. 20	8. 24. 21	0. 25	22. 56	12. 6
19	8. 24. 28	0. 20	8. 23. 35	0. 24	22. 54	11. 38
25	8. 24. 57	0. 19	8. 22. 49	0. 23	22. 53	11. 10
			SATURN. ☍ 18^d. 21^h.			
1	8. 27. 34	1. 2 N	8. 29. 23	1. 7 N	22. 20 S	13. 17
7	8. 27. 44	1. 1	8. 28. 57	1. 7	22. 20	12. 51
13	8. 27. 55	1. 1	8. 28. 31	1. 7	22. 20	12. 24
19	8. 28. 6	1. 0	8. 28. 4	1. 7	22. 20	11. 57
25	8. 28. 17	1. 0	8. 27. 38	1. 7	22. 20	11. 30

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M S.
1	Sa.	10. 24. 29. 0	11. 1. 0. 4	3. 55. 48 S	3.31.55 S
2	*Su.*	11. 7. 24. 46	11. 13. 43. 38	3. 5. 48	2.37.43
3	M.	11. 19. 57. 14	11. 26. 6. 13	2. 8. 9	1.37.25
4	Tu.	0. 2. 11. 12	0. 8. 12. 49	1. 5. 55	0.34. 4 S
5	W.	0. 14. 11. 42	0. 20. 8. 28	0. 2. 0 S	0.29.50 N
6	Th.	0. 26. 3. 39	1. 1. 57. 53	1. 1. 10 N	1.31.45
7	F.	1. 7. 51. 34	1. 13. 45. 14	2. 1. 13	2.29.21
8	Sa.	1. 19. 39. 15	1. 25. 34. 1	2. 55. 51	3.20.29
9	*Su.*	2. 1. 29. 48	2. 7. 26. 55	3. 42. 58	4. 3. 5
10	M.	2. 13. 25. 32	2. 19. 25. 54	4. 20. 35	4.35.14
11	Tu.	2. 25. 28. 9	3. 1. 32. 26	4. 46. 52	4.55.20
12	W.	3. 7. 38. 49	3. 13. 47. 34	5. 0. 27	5. 2. 7
13	Th.	3. 19. 58. 37	3. 26. 12. 14	5. 0. 15	4.54.50
14	F.	4. 2. 28. 32	4. 8. 47. 42	4. 45. 48	4.33.13
15	Sa.	4. 15. 9. 52	4. 21. 35. 21	4. 17. 8	3.57.39
16	*Su.*	4. 28. 4. 15	5. 4. 37. 0	3. 34. 56	3. 9. 9
17	M.	5. 11. 13. 42	5. 17. 54. 40	2. 40. 34	2. 9.28
18	Tu.	5. 24. 40. 9	6. 1. 30. 26	1. 36. 12	1. 1. 8 N
19	W.	6. 8. 25. 35	6. 15. 25. 49	0. 24. 47 N	0.12.26 S
20	Th.	6. 22. 31. 6	6. 29. 41. 24	0. 49. 49 S	1.26.52
21	F.	7. 6. 56. 28	7. 14. 15. 57	2. 2. 51	2.37.10
22	Sa.	7. 21. 39. 18	7. 29. 5. 49	3. 9. 6	3.38. 2
23	*Su.*	8. 6. 34. 35	8. 14. 4. 39	4. 3. 19	4.24.29
24	M.	8. 21. 34. 47	8. 29. 3. 52	4. 41. 4	4.52.43
25	Tu.	9. 6. 30. 36	9. 13. 53. 55	4. 59. 18	5. 0.54
26	W.	9. 21. 12. 41	9. 28. 26. 2	4. 57. 29	4.49.19
27	Th.	10. 5. 33. 16	10. 12. 33. 50	4. 36. 44	4.20. 8
28	F.	10. 19. 27. 24	10. 26. 13. 51	3. 59. 58	3.36.43
29	Sa.	11. 2. 53. 16	11. 9. 25. 52	3. 10. 51	2.42.52
30	*Su.*	11. 15. 51. 58	11. 22. 12. 4	2. 13. 14	1.42.19

JUNE 1782. VI.

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Paſsage over Merid. H. M.	☽'s Right Aſcen. at Noon. D. M.	☽'s Right Aſc. at Midn. D. M.	☽'s Declinat. at Noon. D. M.	☽'s Declin. at Midn. D. M.
1	Sa.	22	17. 48	328. 9	334. 22	17. 4 S	14. 25 S
2	*Su.*	23	18. 31	340. 18	346. 2	11. 40	8. 51
3	M.	24	19. 12	351. 37	357. 4	5. 57	3. 2 S
4	Tu.	25	19. 52	2. 27	7. 46	0. 8 S	2. 44 N
5	W.	26	20. 31	13. 5	18. 24	5. 34 N	8. 20
6	Th.	27	21. 12	23. 47	29. 15	11. 2	13. 36
7	F.	28	21. 55	34. 48	40. 30	16. 3	18. 21
8	Sa.	29	22. 42	46. 21	52. 22	20. 29	22. 25
9	*Su.*	30	23. 30	58. 32	64. 54	24. 7	25. 34
10	M.	1	☌	71. 26	78. 6	26. 45	27. 37
11	Tu.	2	0. 21	84. 53	91. 45	28. 10	28. 23
12	W.	3	1. 15	98. 40	105. 34	28. 15	27. 46
13	Th.	4	2. 8	112. 26	119. 14	26. 56	25. 45
14	F.	5	2. 59	125. 56	132. 31	24. 16	22. 29
15	Sa.	6	3. 48	138. 59	145. 19	20. 24	18. 4
16	*Su.*	7	4. 35	151. 32	157. 39	15. 31	12. 46
17	M.	8	5. 21	163. 43	169. 44	9. 50	6. 46
18	Tu.	9	6. 6	175. 45	181. 47	3. 36 N	0. 20 N
19	W.	10	6. 52	187. 54	194. 7	2. 58 S	6. 16 S
20	Th.	11	7. 41	200. 30	207. 5	9. 33	12. 44
21	F.	12	8. 33	213. 54	220. 59	15. 47	18. 38
22	Sa.	13	9. 31	228. 21	236. 1	21. 14	23. 31
23	*Su.*	14	10. 34	243. 57	252. 8	25. 25	26. 53
24	M.	15	11. 40	260. 30	268. 56	27. 52	28. 20
25	Tu.	16	12. 46	277. 22	285. 41	28. 17	27. 44
26	W.	17	13. 47	293. 48	301. 38	26. 41	25. 13
27	Th.	18	14. 43	309. 9	316. 20	23. 22	21. 13
28	F.	19	15. 34	323. 12	329. 45	18. 48	16. 11
29	Sa.	20	16. 20	336. 2	342. 3	13. 25	10. 33
30	*Su.*	21	17. 2	347. 52	353. 31	7. 38	4. 40

JUNE 1782.

Days of the Month.	Days of the Week.	Semid^{r}. ☽ at Noon.	Semid^{r}. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	Sa.	15. 36	15. 29	57. 17	56. 50	4972	5006
2	*Su.*	15. 22	15. 16	56. 25	56. 1	5038	5069
3	M.	15. 10	15. 5	55. 40	55. 21	5097	5122
4	Tu.	15. 0	14. 56	55. 4	54. 50	5144	5162
5	W.	14. 53	14. 50	54. 38	54. 28	5178	5191
6	Th.	14. 48	14. 47	54. 19	54. 14	5203	5210
7	F.	14. 46	14. 45	54. 10	54. 8	5215	5218
8	Sa.	14. 45	14. 45	54. 8	54. 9	5218	5217
9	*Su.*	14. 46	14. 47	54. 12	54. 16	5213	5207
10	M.	14. 49	14. 51	54. 22	54. 29	5199	5190
11	Tu.	14. 53	14. 55	54. 37	54. 46	5179	5167
12	W.	14. 58	15. 1	54. 57	55. 8	5153	5138
13	Th.	15. 4	15. 8	55. 19	55. 34	5124	5104
14	F.	15. 13	15. 17	55. 49	56. 4	5085	5065
15	Sa.	15. 21	15. 26	56. 21	56. 39	5044	5021
16	*Su.*	15. 31	15. 37	56. 58	57. 17	4996	4972
17	M.	15. 42	15. 48	57. 38	57. 59	4946	4919
18	Tu.	15. 54	16. 0	58. 20	58. 42	4893	4866
19	W.	16. 5	16. 11	59. 3	59. 24	4841	4815
20	Th.	16. 17	16. 22	59. 44	60. 3	4790	4768
21	F.	16. 26	16. 30	60. 18	60. 33	4750	4732
22	Sa.	16. 33	16. 35	60. 44	60. 51	4718	4710
23	*Su.*	16. 36	16. 36	60. 55	60. 55	4705	4705
24	M.	16. 35	16. 33	60. 51	60. 43	4710	4719
25	Tu.	16. 29	16. 25	60. 30	60. 14	4735	4754
26	W.	16. 19	16. 13	59. 54	59. 32	4778	4805
27	Th.	16. 7	16. 0	59. 8	58. 42	4834	4866
28	F.	15. 52	15. 45	58. 15	57. 48	4900	4933
29	Sa.	15. 38	15. 30	57. 21	56. 54	4967	5002
30	*Su.*	15. 24	15. 17	56. 30	56. 6	5032	5063

Diſtances of ☽'s Center from Sun, and from Stars eaſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours	18 Hours.	21 Hours.
		D. M. S	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	α Arietis.	71. 12. 38	69. 35. 26	67. 58. 38	66. 22. 16	64. 46. 18	63. 10. 45	61. 35. 35	60. 0.49
2		58. 26. 26	56. 52. 27	55. 18. 50	53. 45. 36	52. 12. 44			
1	The Sun.	106. 28. 27	104. 57. 35	103. 27. 6	101. 57. 0	100. 27. 18	98. 57. 58	97. 28. 59	96. 0.21
2		94. 32. 5	93. 4. 10	91. 36. 36	90. 9. 21	88. 42. 25	87. 15. 48	85. 49. 29	84.23.27
3		82. 57. 43	81. 32. 16	80. 7. 4	78. 42. 8	77. 17. 27	75. 53. 1	74. 28. 49	73. 4.50
4		71. 41. 5	70. 17. 32	68. 54. 10	67. 31. 0	66. 8. 1	64. 45. 13	63. 22. 34	62. 0. 5
5		60. 37. 45	59. 15. 34	57. 53. 30	56. 31. 34	55. 9. 46	53. 48. 5	52. 26. 30	51. 5. 1
6		49. 43. 38	48. 22. 19	47. 1. 5	45. 39. 56	44. 18. 52	42. 57. 52	41. 36. 56	40.16. 5
7		38. 55. 17							
12	Regulus.					43. 11. 28	41. 39. 37	40. 7. 38	38.35.31
13		37. 3. 15	35. 30. 51	33. 58. 19	32. 25. 40	30. 52. 53	29. 19. 57	27. 46 55	26.13.47
14		24. 40. 33	23. 7. 14	21. 33. 51	20. 0. 24	18. 26. 54			
14	Spica ♍					72. 15. 16	70. 40. 18	69. 5. 6	60.29.41
15		65. 54. 2	64. 18. 10	62. 42. 4	61. 5. 45	59. 29. 12	57. 52. 26	56. 15. 25	54.38. 9
16		53. 0. 38	51. 22. 50	49. 44. 46	48. 6. 27	46. 27. 52	44. 49. 3	43. 9. 57	41.30.35
17		39. 50. 56	38. 10. 59	36. 30. 46	34. 50. 15	33. 9. 26	31. 28. 20	29. 46. 57	28. 5.16
18		26. 23. 17	24. 41. 0	22. 58. 26	21. 15. 33	19. 32. 23			

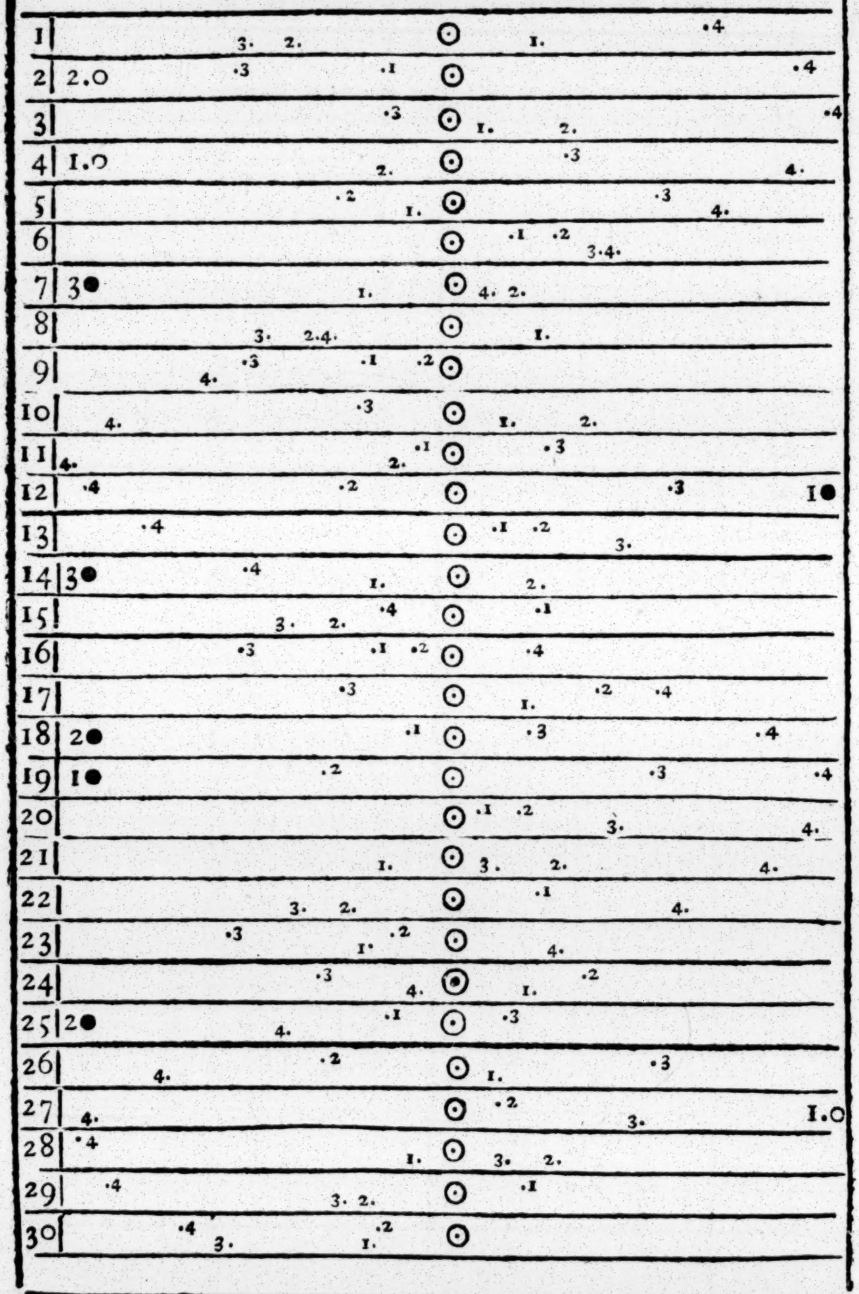
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S	D. M. S	D. M. S.	D. M. S.	D. M. S.	D. M. S.
18	Antares.					65. 24. 0	63. 40. 19	61. 56. 19	60. 11. 59
19		58. 27. 19	56. 42. 20	54. 57. 2	53. 11. 24	51. 25. 28	49. 39. 14	47. 52. 40	46. 5. 48
20		44. 18. 36	42. 31. 7	40. 43. 19	38. 55. 13	37. 6. 49	35. 18. 8	33. 29. 11	31. 39. 58
21		29. 50. 30							
21	α Aquilæ.	83. 50. 21	82. 19. 52	80. 49. 19	79. 18. 44	77. 8. 10	76. 17. 41	74. 47. 19	73. 17. 8
22		71. 47. 10	70. 17. 28	68. 48. 7	67. 19. 11	65. 50. 41	64. 22. 43	62. 55. 24	61. 28. 42
23		60. 2. 42							
23	Fomal-haut.	83. 9. 23	81. 22. 31	79. 35. 39	77. 48. 50	76. 2. 5	74. 15. 27	72. 28. 58	71. 42. 40
24		68. 56. 34	67. 10. 38	65. 25. 1	63. 39. 43	61. 54. 45	60. 10. 10	58. 26. 0	56. 42. 18
25		54. 59. 6	53. 16. 25	51. 34. 20	49. 52. 56	48. 12. 16	46. 32. 20	44. 53. 16	43. 15. 12
26		41. 38. 7	40. 2. 11	38. 27. 28	36. 54. 3	35. 22. 0			
26	α Arietis.					96. 54. 20	95. 8. 28	93. 22. 50	91. 37. 35
27		89. 52. 42	88. 8. 13	86. 24. 8	84. 40. 27	82. 57. 11	81. 14. 21	79. 31. 56	77. 49. 57
28		76. 8. 24	74. 27. 17	72. 46. 36	71. 6. 21	69. 26. 32	67. 47. 10	66. 8. 13	64. 29. 42
29		62. 51. 38	61. 14. 0	59. 36. 48	58. 0. 2	56. 23. 42	54. 47. 49	53. 12. 21	51. 37. 19
30		50. 2. 43	48. 28. 32	46. 54. 47	45. 21. 27	43. 48. 34	42. 16. 6	40. 44. 5	39. 12. 29
J. 1		37. 41. 19							
29	The Sun.				120. 14. 27	118. 44. 25	117. 14. 45	115. 45. 27	114. 16. 31
30		112. 47. 56	111. 19. 43	109. 51. 50	108. 24. 17	106. 57. 4	105. 30. 9	104. 3. 32	102. 37. 16
J. 1		101. 11. 21							

Diſtances of ☽'s Center from Sun, and from Stars weſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1		77. 30. 8	79. 8. 27	80. 46. 23	82. 23. 55	84. 1. 4	85. 37. 50	87. 14. 15	88. 50. 19
2	Antares.	90. 26. 1	92. 1. 22	93. 36. 23	95. 11. 4	96. 45. 26	98. 19. 29	99. 53. 14	101. 26. 42
3		102. 59. 52							
3		58. 11. 4	59. 21. 1	60. 31. 23	61. 42. 6	62. 53. 10	64. 4. 35	65. 16. 16	66. 28. 14
4	ι Aquilæ	67. 40. 27	68. 52. 52	70. 5. 28	71. 18. 13	72. 31. 8	73. 44. 11	74. 57. 19	76. 10. 31
5		77. 23. 48							
5		47. 18. 33	48. 40. 35	50. 2. 50	51. 25. 15	52. 47. 51	54. 10. 37	55. 33. 31	56. 56. 33
6	Fomal-	58. 19. 44	59. 43. 0	61. 6. 22	62. 29. 50	63. 53. 24	65. 17. 2	66. 40. 45	68. 4. 33
7	haut.	69. 28. 26	70. 52. 23	72. 16. 25	73. 40. 30	75. 4. 40	76. 28. 53	77. 53. 10	79. 17. 31
8		80. 41. 56	82. 6. 25	83. 30. 57	84. 55. 34	86. 20. 14			
14		39. 17. 35	40. 43. 57	42. 10. 32	43. 37. 20	45. 4. 22	46. 31. 38	47. 59. 8	49. 26. 52
15		50. 54. 51	52. 23. 5	53. 51. 34	55. 20. 18	56. 49. 16	58. 18. 27	59. 47. 54	61. 17. 37
16		62. 47. 35	64. 17. 51	65. 48. 24	67. 19. 13	68. 50. 18	70. 21. 38	71. 53. 15	73. 25. 8
17	The Sun.	74. 57. 19	76. 29. 48	78. 2. 35	79. 35. 40	81. 9. 2	82. 42. 43	84. 16. 42	85. 50. 59
18		87. 25. 35	89. 0. 30	90. 35. 44	92. 11. 16	93. 47. 8	95. 23. 19	96. 59. 48	98. 36. 37
19		100. 13. 44	101. 51. 10	103. 28. 55	105. 6. 58	106. 45. 20	108. 24. 1	110. 3. 0	111. 42. 17
20		113. 21. 52	115. 1. 45	116. 41. 54	118. 22. 20	120. 3. 4			

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S	D. M. S.
18	Regulus.	27. 53. 1	29. 34. 46	31. 16. 54	32. 59. 23	34. 42. 15	36. 25. 28	38. 9. 3	39. 52. 59
19		41. 37. 16	43. 21. 54	45. 6. 53	46. 52. 11	48. 37. 50	50. 23. 49	52. 10. 7	53. 56. 44
20		55. 43. 41	57. 30. 56	59. 18. 30	61. 6. 22	62. 54. 32	64. 43. 0	66. 31. 45	68. 20. 47
21		70. 10. 6							
21	Spica ♍	16. 7. 18	17. 56. 43	19. 46. 25	21. 36. 24	23. 26. 39	25. 17. 10	27. 7. 53	28. 58. 50
22		30. 49. 59	32. 41. 20	34. 32. 50	36. 24. 29	38. 16. 17	40. 8. 12	42. 0. 12	43. 52. 17
23		45. 44. 27	47. 36. 42	49. 28. 58	51. 21. 15	53. 13. 34	55. 5. 51	56. 58. 6	58. 50. 17
24		60. 42. 26	62. 34. 29	64. 26. 26	66. 18. 15	68. 9. 57			
24	Antares.					22. 15. 37	24. 7. 7	25. 58. 28	27. 49. 39
25		29. 40. 36	31. 31. 22	33. 21. 54	35. 12. 10	37. 2. 12	38. 51. 55	40. 41. 20	42. 30. 27
26		44. 19. 16	46. 7. 45	47. 55. 53	49. 43. 40	51. 31. 6	53. 18. 10	55. 4. 50	56. 51. 8
27		58. 37. 3	60. 22. 33	62. 7. 39	63. 52. 21	65. 36. 39	67. 20. 31	69. 3. 57	70. 46. 59
28		72. 29. 35	74. 11. 46	75. 53. 32	77. 34. 53	79. 15. 49	80. 56. 19	82. 36. 24	84. 16. 5
29		85. 55. 21	87. 34. 13	89. 12. 41	90. 50. 45	92. 28. 26	94. 5. 42	95. 42. 36	97. 19. 8
30		98. 55. 17	100. 31. 4	102. 6. 31	103. 41. 37	105. 16. 23	106. 50. 49	108. 24. 55	109. 58. 43
J. 1		111. 32. 12							

Configurations of the SATELLITES of JUPITER at Eleven o' Clock at Night.



JULY 1782.

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	M.	
2	Tu.	Camb. Commencement.
3	W.	[Viſitation of V. Mary.
4	Th.	Tranſl. of S. Martin.
5	F.	Camb. Term ends.
6	Sa.	
7	*Su.*	*6th Sunday after Trinity.*
8	M.	Oxford Act.
9	Tu.	
10	W.	
11	Th.	
12	F.	
13	Sa.	Oxford Term ends.
14	*Su.*	*7th Sunday after Trinity.*
15	M.	Swithin.
16	Tu.	
17	W.	
18	Th.	
19	F.	
20	Sa.	Margaret.
21	*Su.*	*8th Sunday after Trinity.*
22	M.	Magdalen.
23	Tu.	
24	W.	
25	Th.	*St. James.*
26	F.	St. Anne.
27	Sa.	
28	*Su.*	*9th Sunday after Trinity.*
29	M.	
30	Tu.	
31	W.	

Phaſes of the Moon.

	D.H.M.
Laſt Quarter —	1. 23. 46
New Moon —	10. 2. 59
Firſt Quarter —	17. 10. 55
Full Moon —	24. 3. 21
Laſt Quarter —	31. 16. 22

Other Phenomena.

D.	
2.	☾ ζ ♓ 12^{h}. 12^{h}.
5.	☾ δ ♈ 2^{h}. 51′.
	☾ η Pleiadum 21^{h}. 26′.
7.	☾ β ♉ 18^{h}. 45′.
9.	♀ ε ♉ diff. Lat. 14′.
	☿ Stationary.
	☾ ι ♊ 22^{h}. 18′.
14.	☾ σ ♌ 13^{h}. 19′.
15.	☾ β ♍ 4^{h}. 20′.
	☾ η ♍ 18^{h}. 1′.
16.	♀ ι ♉ diff. Lat. 53′.
17.	☾ α ♍ 3^{h}. 9′.
20.	☾ σ ♏ 5^{h}. 12′.
	☾ α ♏ 8^{h}. 27′.
22.	☉ enters ♌ at 8^{h}. 11′.
	☾ φ ♐ 10^{h}. 27′.
	☾ τ ♐ 18^{h}. 9′.
23.	♀ ζ ♉ diff. Lat. 26′.
25.	☾ ε ♑ 5^{h}. 45′.
29.	☾ ε ♓ 15^{h}. 37′.
	☾ ζ ♓ 20^{h}. 12′.
30.	♀ η ♊ diff. Lat. 33′.

JULY 1782.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. South.	Equat. of Time. Add.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	M.	3. 9. 38. 10	6. 41. 56,8	23. 7.11	3. 20,2	11,3
2	Tu.	3. 10. 35. 21	6. 46. 4,8	23. 2.50	3. 31,5	11,2
3	W.	3. 11. 32. 34	6. 50. 12,5	22.58. 5	3. 42,7	10,9
4	Th.	3. 12. 29. 47	6. 54. 20,0	22.52.56	3. 53,6	10,6
5	F.	3. 13. 26. 59	6. 58. 27,0	22.47.23	4. 4,2	10,3
6	Sa.	3. 14. 24. 13	7. 2. 34,0	22.41.26	4. 14,5	9,9
7	*Su.*	3. 15. 21. 27	7. 6. 40,5	22.35. 5	4. 24,4	9,5
8	M.	3. 16. 18. 41	7. 10. 46,6	22.28.21	4. 33,9	9,2
9	Tu.	3. 17. 15. 56	7. 14. 52,4	22.21.14	4. 43,1	8,8
10	W.	3. 18. 13. 11	7. 18. 57,8	22.13.43	4. 51,9	8,3
11	Th.	3. 19. 10. 26	7. 23. 2,7	22. 5.50	5. 0,2	7,9
12	F.	3. 20. 7. 41	7. 27. 7,1	21.57.34	5. 8,1	7,4
13	Sa.	3. 21. 4. 57	7. 31. 11,1	21.48.55	5. 15,5	7,0
14	*Su.*	3. 22. 2. 13	7. 35. 14,6	21.39.53	5. 22,5	6,4
15	M.	3. 22. 59. 28	7. 39. 17,6	21.30.30	5. 28,9	5,9
16	Tu.	3. 23. 56. 45	7. 43. 20,1	21.20.44	5. 34,8	5,4
17	W.	3. 24. 54. 1	7. 47. 22,1	21.10.37	5. 40,2	4,8
18	Th.	3. 25. 51. 17	7. 51. 23,4	21. 0. 9	5. 45,0	4,3
19	F.	3. 26. 48. 34	7. 55. 24,3	20.49.19	5. 49,3	3,7
20	Sa.	3. 27. 45. 50	7. 59. 24,5	20.38. 8	5. 53,0	3,2
21	*Su.*	3. 28. 43. 7	8. 3. 24,2	20.26.36	5. 56,2	2,5
22	M.	3. 29. 40. 25	8. 7. 23,3	20.14.44	5. 58,7	1,9
23	Tu.	4. 0. 37. 43	8. 11. 21,8	20. 2.31	6. 0,6	1,4
24	W.	4. 1. 35. 1	8. 15. 19,9	19.49.59	6. 2,0	0,8
25	Th.	4. 2. 32. 20	8. 19. 17,2	19.37. 6	6. 2,8	0,1
26	F.	4. 3. 29. 40	8. 23. 13,9	19.23.54	6. 2,9	0,4
27	Sa.	4. 4. 27. 1	8. 27. 10,1	19.10.23	6. 2,5	0,9
28	*Su.*	4. 5. 24. 23	8. 31. 5,7	18.56.33	6. 1,6	1,4
29	M.	4. 6. 21. 47	8. 35. 0,8	18.42.24	6. 0,2	2,1
30	Tu.	4. 7. 19. 10	8. 38. 55,2	18.27.56	5. 58,1	2,8
31	W.	4. 8. 16. 35	8. 42. 49,0	18.13.10	5. 55,3	3,5

Days.	Semidiameter of the Sun.	Time of D° paſſing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Diſtance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	15. 46,9	1. 8,6	2. 23,0	0. 007218	0. 11. 45
7	15. 47,0	1. 8,4	2. 23,0	0. 007193	0. 11. 26
13	15. 47,2	1. 8,0	2. 23,1	0. 007077	0. 11. 7
19	15. 47,6	1. 7,6	2. 23,2	0. 006869	0. 10. 48
25	15. 48,2	1. 7,1	2. 23,4	0. 006601	0. 10. 29

Eclipſes of the SATELLITES of JUPITER.

I. Satellite Emerſions.		II. Satellite. Emerſions.	
Days	H. M. S.	Days	H. M. S.
1	22. 26. 1	2	17. 6. 18
3	16. 54. 26	6	6. 23. 0
5	11*22. 51	9	19. 39. 45
7	5. 51. 17	13	8. 56. 37
9	0. 19. 46	16	22. 13. 36
10	18. 48. 16	20	11*30. 43
12	13. 16. 48	24	0. 47. 59
14	7. 45. 23	27	14. 5. 22
16	2. 14. 0	31	3. 22. 57
17	20. 42. 39		
19	15. 11. 19		
21	9*40. 2		
23	4. 8. 46		
24	22. 37. 33		
26	17. 6. 22		
28	11. 35. 14		
30	6. 4. 13		

III. Satellite.

Days	H. M. S.
5	22. 23. 54 I
6	1. 8. 31 E
13	2. 22. 8 I
13	5. 7. 55 E
20	6. 20. 53 I
20	9* 7. 50 E
27	10*20. 14 I
27	13. 8. 19 E

IV. Satellite.

Days	H. M. S.
11	0. 56. 15 I
11	2. 21. 45 E
27	18. 51. 40 I
27	20. 32. 36 E

JULY 1782.

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Passage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M	D. M.	H. M.
	MERCURY. Inf. ☌ 23^{d}. 0^{h}.					
1	7.27.32	1.26 S	4. 4.17	0.54 S	18.20 N	1.44
4	8. 5.51	2.25	4. 5.49	1.36	17.17	1.37
7	8.14. 6	3.20	4. 6.42	2.20	16.20	1.27
10	8.22.21	4.11	4. 6.54	3. 4	15.36	1.15
13	9. 0.43	4.57	4. 6.23	3.46	15. 3	1. 0
16	9. 9.17	5.38	4. 5.11	4.21	14.47	0.43
19	9.18. 9	6.13	4. 3.25	4.45	14.47	0.23
22	9.27.26	6.39	4. 1.20	4.56	15. 5	0. 2
25	10. 7.16	6.55	3.29.13	4.52	15.35	23.36
28	10.17.46	7. 0	3.27.26	4.33	16.14	23.18
31	10.29. 6	6.49	3.26.17	4. 0	17. 0	23. 3
	VENUS.					
1	11.13.37	3.23 S	1.26.34	2.35 S	16.54 N	20.58
7	11.23. 8	3.21	2. 3.12	2.26	18.26	21. 0
13	0. 2.41	3.13	2. 9.56	2.14	19.45	21. 3
19	0.12.13	3. 0	2.16.44	2. 0	20.49	21. 8
25	0.21.48	2.42	2.23.36	1.44	21.35	21.13
	MARS.					
1	4. 7.28	1.49 N	3.26.55	1. 9 N	21.57 N	1.14
7	4.10. 8	1.50	4. 0.44	1. 9	21. 9	1. 5
13	4.12.47	1.51	4. 4.33	1. 9	20.17	0.57
19	4.15.26	1.51	4. 8.21	1. 9	19.20	0.49
25	4.18. 4	1.51	4.12.10	1. 9	18.17	0.41
	JUPITER.					
1	8.25.29	0.18 N	8.22.10	0.22 N	22.52 S	10.42
7	8.25.59	0.18	8.21.29	0.21	22.50	10.15
13	8.26.28	0.17	8.20.53	0.20	22.49	9.48
19	8.26.58	0.17	8.20.22	0.19	22.48	9.21
25	8.27.27	0.16	8.19.55	0.18	22.47	8.55
	SATURN.					
1	8.28.28	1. 0 N	8.27.13	1. 6 N	22.20 S	11. 4
7	8.28.38	1. 0	8.26.48	1. 5	22.20	10.37
13	8.28.49	0.59	8.26.25	1. 5	22.21	10.11
19	8.29. 0	0.59	8.26. 3	1. 4	22.21	9.46
25	8.29.11	0.58	8.25.43	1. 3	22.21	9.21

JULY 1782.

Days of the Month.	Days of the Week.	Moon s Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M. S.
1	M.	11. 28. 26. 41	0. 4. 36. 27	1. 10. 40 S	0.38.28 S
2	Tu.	0. 10. 41. 58	0. 16. 43. 55	0. 6. 20 S	0.25.37 N
3	W.	0. 22. 43. 2	0. 28. 39. 56	0. 57. 2 N	1.27.38
4	Th.	1. 4. 35. 18	1. 10. 29. 45	1. 57. 7	2.25.14
5	F.	1. 16. 23. 54	1. 22. 18. 20	2. 51. 44	3.16.23
6	Sa.	1. 28. 13. 34	2. 4. 10. 3	3. 38. 57	3.59.10
7	*Su.*	2. 10. 8. 11	2. 16. 8. 19	4. 16. 51	4.31.46
8	M.	2. 22. 10. 45	2. 28. 15. 43	4. 43. 44	4.52.32
9	Tu.	3. 4. 23. 21	3. 10. 33. 48	4. 58. 3	5. 0. 5
10	W.	3. 16. 47. 4	3. 23. 3. 19	4. 58. 36	4.53.29
11	Th.	3. 29. 22. 29	4. 5. 44. 28	4. 44. 45	4.32.23
12	F.	4. 12. 9. 21	4. 18. 37. 7	4. 16. 29	3.57. 9
13	Sa.	4. 25. 7. 42	5. 1. 41. 10	3. 34. 35	3. 8.58
14	*Su.*	5. 8. 17. 27	5. 14. 56. 41	2. 40. 37	2. 9.49
15	M.	5. 21. 38. 51	5. 28. 24. 6	1. 36. 57	1. 2.27 N
16	Tu.	6. 5. 12. 28	6. 12. 4. 5	0. 26. 47 N	0. 9.36 S
17	W.	6. 18. 59. 1	6. 25. 57. 17	0. 46. 9 S	1.22.18
18	Th.	7. 2. 58. 56	7. 10. 3. 55	1. 57. 29	2.31. 9
19	F.	7. 17. 12. 4	7. 24. 23. 11	3. 2. 41	3.31.31
20	Sa.	8. 1. 36. 56	8. 8. 52. 50	3. 57. 9	4.19. 2
21	*Su.*	8. 16. 10. 19	8. 23. 28. 40	4. 36. 48	4.50. 3
22	M.	9. 0. 47. 8	9. 8. 4. 50	4. 58. 35	5. 2.13
23	Tu.	9. 15. 20. 51	9. 22. 34. 17	5. 0. 57	4.54.52
24	W.	9. 29. 44. 18	10. 6. 50. 5	4. 44. 11	4.29. 9
25	Th.	10. 13. 50. 58	10. 20. 46. 27	4. 10. 12	3.47.46
26	F.	10. 27. 36. 8	11. 4. 19. 45	3. 22. 18	2.54.21
27	Sa.	11. 10. 57. 16	11. 17. 28. 44	2. 24. 23	1.52.56
28	*Su.*	11. 23. 54. 18	0. 0. 14. 25	1. 20. 28	0.47.24 S
29	M.	0. 6. 29. 25	0. 12. 39. 41	0. 14. 10 S	0.18.50 N
30	Tu.	0. 18. 45. 50	0. 24. 48. 31	0. 51. 17 N	1.22.51
31	W.	1. 0. 48. 22	1. 6. 46. 0	1. 53. 16	2.22.15

JULY 1782.

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Passage over Merid.	☽'s Right Afcen. at Noon.	☽'s Right Afc. at Midn.	☽'s Declination at Noon.	☽'s Declination at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	M.	22	17. 44	359. 3	4. 29	1. 42 S	1. 15 N
2	Tu.	23	18. 24	9. 52	15. 15	4. 9 N	6. 59
3	W.	24	19. 5	20. 39	26. 6	9. 44	12. 23
4	Th.	25	19. 47	31. 38	37. 17	14. 54	17. 16
5	F.	26	20. 31	43. 3	48. 59	19. 30	21. 32
6	Sa.	27	21. 20	55. 5	61. 21	23. 21	24. 55
7	*Su.*	28	22. 11	67. 48	74. 25	26. 14	27. 15
8	M.	29	23. 4	81. 10	88. 2	27. 57	28. 20
9	Tu.	30	23. 57	94. 58	101. 56	28. 22	28. 2
10	W.	1	☌	108. 54	115. 48	27. 21	26. 19
11	Th.	2	0. 49	122. 38	129. 20	24. 57	23. 16
12	F.	3	1. 40	135. 54	142. 21	21. 16	19. 0
13	Sa.	4	2. 28	148. 40	154. 52	16. 31	13. 50
14	*Su.*	5	3. 15	160. 57	166. 59	10. 57	7. 56
15	M.	6	4. 0	172. 58	178. 57	4. 48 N	1. 35 N
16	Tu.	7	4. 46	184. 57	191. 2	1. 40 S	4. 55 S
17	W.	8	5. 33	197. 13	203. 33	8. 9	11. 19
18	Th.	9	6. 22	210. 4	216. 49	14. 21	17. 14
19	F.	10	7. 16	223. 49	231. 5	19. 54	22. 18
20	Sa.	11	8. 15	238. 37	246. 25	24. 22	26. 4
21	*Su.*	12	9. 17	254. 27	262. 37	27. 20	28. 8
22	M.	13	10. 23	270. 55	279. 8	28. 26	28. 15
23	Tu.	14	11. 25	287. 18	295. 16	27. 34	26. 25
24	W.	15	12. 24	303. 1	310. 28	24. 51	22. 56
25	Th.	16	13. 18	317. 36	324. 27	20. 41	18. 12
26	F.	17	14. 7	331. 0	337. 18	15. 29	12. 38
27	Sa.	18	14. 52	343. 21	349. 13	9. 41	6. 41
28	*Su.*	19	15. 34	354. 56	0. 32	3. 39 S	0. 38 S
29	M.	20	16. 17	6. 3	11. 31	2. 22 N	5. 18 N
30	Tu.	21	16. 58	16. 59	22. 28	8. 9	10. 54
	W.	22	17. 40	28. 0	33. 37	13. 32	16. 1

VII. JULY 1782.

Days of the Month.	Days of the Week.	Semidr. ☽ at Noon.	Semidr. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	M.	15. 11	15. 6	55. 44	55. 25	5091	5116
2	Tu.	15. 1	14. 57	55. 7	54. 53	5140	5158
3	W.	14. 54	14. 51	54. 40	54. 30	5175	5189
4	Th.	14. 49	14. 48	54. 23	54. 18	5198	5205
5	F.	14. 47	14. 47	54. 15	54. 15	5209	5209
6	Sa.	14. 47	14. 48	54. 16	54. 20	5207	5202
7	*Su.*	14. 50	14. 52	54. 25	54. 32	5195	5186
8	M.	14. 54	14. 57	54. 41	54. 51	5174	5161
9	Tu.	15. 0	15. 3	55. 2	55. 13	5146	5132
10	W.	15. 6	15. 10	55. 27	55. 41	5114	5095
11	Th.	15. 14	15. 18	55. 55	56. 9	5077	5059
12	F.	15. 22	15. 26	56. 24	56. 39	5040	5021
13	Sa.	15. 31	15. 35	56. 55	57. 10	5000	4981
14	*Su.*	15. 39	15. 43	57. 26	57. 42	4961	4941
15	M.	15. 47	15. 52	57. 57	58. 13	4922	4902
16	Tu.	15. 56	16. 0	58. 28	58. 43	4883	4865
17	W.	16. 4	16. 7	58. 57	59. 10	4848	4832
18	Th.	16. 11	16. 14	59. 23	59. 35	4816	4801
19	F.	16. 17	16. 20	59. 45	59. 55	4789	4777
20	Sa.	16. 22	16. 23	60. 2	60. 6	4769	4764
21	*Su.*	16. 23	16. 23	60. 7	60. 8	4763	4761
22	M.	16. 22	16. 20	60. 5	59. 58	4765	4773
23	Tu.	16. 18	16. 14	59. 48	59. 36	4786	4800
24	W.	16. 10	16. 5	59. 20	59. 3	4820	4841
25	Th.	16. 0	15. 54	58. 43	58. 21	4865	4892
26	F.	15. 48	15. 42	57. 58	57. 36	4921	4949
27	Sa.	15. 35	15. 29	57. 12	56. 48	4979	5009
28	*Su.*	15. 22	15. 17	56. 25	56. 4	5038	5065
29	M.	15. 11	15. 6	55. 45	55. 26	5090	5115
30	Tu.	15. 2	14. 58	55. 9	54. 54	5137	5157
31	W.	14. 55	14. 52	54. 43	54. 33	5171	5185

Distances of ☽'s Center from Sun, and from Stars east of her.

Days.	Stars Names.	Noon. D. M. S.	3 Hours. D. M. S.	6 Hours. D. M. S.	9 Hours. D. M. S.	12 Hours. D. M. S.	15 Hours. D. M. S.	18 Hours. D. M. S.	21 Hours. D. M. S.
1	α Arietis	37.41.20	36.10.37	34.40.23	33.10.41	31.41.30	30.12.53	28.44.51	27.17.20
2		25.50.20							
1	The Sun.	101.11.21	99.45.40	98.20.17	96.55. 9	95.30.18	94. 5.43	92.41.22	91.17.15
2		89.53.23	88.29.45	87. 6.19	85.43. 6	84.20. 4	82.57.13	81.34.31	80.12. 0
3		78.49.38	77.27.25	76. 5.20	74.43.23	73.21.34	71.59.52	70.38.15	69.16.44
4		67.55.18	66.33.57	65.12.39	63.51.25	62.30.14	61. 9. 6	59.48. 0	58.26.55
5		57. 5.52	55.44.50	54.23.47	53. 2.45	51.41.42	50.20.39	48.59.34	47.38.28
6		46.17.20	44.56.10	43.34.58	42.13.44	40.52.26			
12	Spica ♍	68.53.28	67.16.59	65.40.18	64. 3.24	62.26.19	60.49. 3	59.11.35	57.33.54
13		55.56. 2	54.17.57	52.39.41	51. 1.12	49.22.32	47.43.40	46. 4.36	44.25.21
14		42.45.53	41. 6.13	39.26.21	37.46.18	36. 6. 2	34.25.35	32.44.56	31. 4. 4
15		29.23. 1	27.41.45	26. 0.17	24.18.37	22.36.47			
15	Antares.					68.29.36	66.47.26	65. 5. 4	63.22.29
16		61.39.42	59.56.43	58.13.32	56.30. 8	54.46.31	53. 2.41	51.18.39	49.34.25
17		47.49.59	46. 5.21	44.20.31	42.35.29	40.50.15	39. 4.49	37.19.12	35.33.22
18		33.47.21							
18	ι Aquilæ.	87.14.12	85.46.19	84.18.21	82.50.20	81.22.18	79.54.16	78.26.20	76.58.28
19		75.30.43	74. 3. 6	72.35.42	71. 8.34	69.41.42	68.15. 9	66.49. 0	65.23.19
20		63.58. 9							

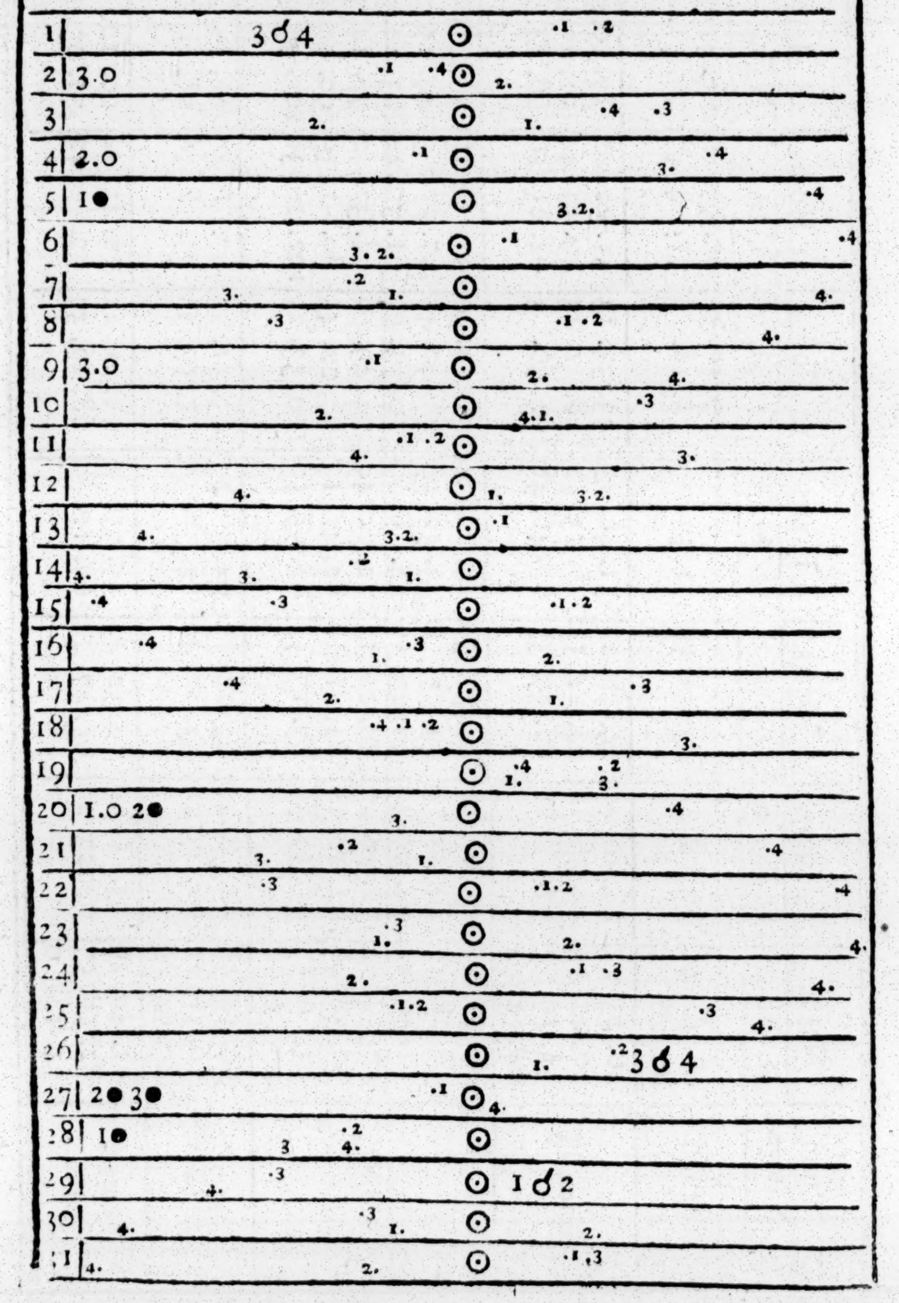
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
20	Fomal-haut.	87. 49. 8	86. 5. 43	84. 22. 13	82. 38. 39	80. 55. 3	79. 11. 25	77. 27. 49	75.44.14
21		74. 0. 41	72. 17. 12	70. 33. 50	68. 50. 35	67. 7. 28	65. 24. 30	63. 41. 45	61.59.15
22		60. 16. 59	58. 35. 0	56. 53. 24	55. 12. 11	53. 31. 22	51. 50. 59	50. 11. 11	48.31.59
23		46. 53. 23	45. 15. 32	43. 38. 28	42. 2. 14	40. 26. 54			
23	α Arietis.					102. 41. 27	100. 55. 0	99. 8. 45	97.22.43
24		95. 36. 55	93. 51. 21	92. 6. 2	90. 20. 59	88. 36. 11	86. 51. 41	85. 7. 28	83.23.34
25		81. 39. 58	79. 56. 42	78. 13. 45	76. 31. 9	74. 48. 53	73. 6. 58	71. 25. 24	69.44.13
26		68. 3. 23	66. 22. 57	64. 42. 54	63. 3. 15	61. 23. 58	59. 45. 5	58. 6. 36	56.28.31
27		54. 50. 50	53. 13. 33	51. 36. 42	50. 0. 15	48. 24. 14	46. 48. 39	45. 13. 29	43.38.46
28		42. 4. 29							
28	Aldeba-ran.	72. 47. 42	71. 13. 23	69. 39. 25	68. 5. 47	66. 32. 31	64. 59. 36	63. 27. 1	61.54.48
29		60. 22. 55	58. 51. 24	57. 20. 14	55. 49. 24	54. 18. 52	52. 48. 42	51. 18. 50	49.49.19
30		48. 20. 7	46. 51. 15	45. 22. 42	43. 54. 31	42. 26. 40	40. 59. 9	39. 32. 0	38. 5.14
31		36. 38. 51	35. 12. 53	33. 47. 20	32. 22. 14	30. 57. 34			
29	The Sun.	119. 52. 22	118. 26. 35	117. 1. 4	115. 35. 49	114. 10. 49	112. 46. 4	111. 21. 33	109.57.16
30		108. 33. 13	107. 9. 23	105. 45. 46	104. 22. 20	102. 59. 7	101. 36. 5	100. 13. 13	98.50.30
31		97. 27. 58	96. 5. 35	94. 43. 19	93. 21. 12	91. 59. 12	90. 37. 18	89. 15. 31	88.53.49
A. 1		86. 32. 12							

Diſtances of ☽'s Center from Sun, and from Stars weſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	α Aquilæ.	64.34.37	65.47.52	67. 1.19	68.14.56	69.28.42	70.42.36	71.56.36	73.10.41
2		74.24.52	75.39. 4	76.53.17	78. 7.32	79.21.48	80.36. 2	81.50.17	83. 4.33
3		84.18.44							
3	Fomalhaut.	55.17.42	56.41.10	58. 4.42	59.28.17	60.51.56	62.15.39	63.39.24	65. 3.13
4		66.27. 5	67.50.58	69.14.55	70.38.53	72. 2.55	73.26.59	74.51. 7	76.15.17
5		77.39.30	79. 3.46	80.28. 5	81.52.27	83.16.52			
5	α Arietis.					18.47.12	20. 8. 5	21.29.49	22.52.21
6		24.15.38	25.39.34	27. 4. 7	28.29.13	29.54.46	31.20.39	32.46.54	34.13.30
7		35.40.25	37. 7.35	38.35. 1	40. 2.43	41.30.44	42.58.58	44.27.25	45.56. 8
8		47.25. 5	48.54.15	50.23.36	51.53.10	53.22.56			
13	The Sun.					40.13.44	41.44.39	43.15.47	44.47.11
14		46.18.49	47.50.42	49.22.48	50.55. 9	52.27.43	54. 0.30	55.33.31	57. 6.45
15		58.40.13	60.13.54	61.47.48	63.21.55	64.56.15	66.30.48	68. 5.35	69.40.34
16		71.15.46	72.51.11	74.26.49	76. 2.40	77.38.43	79.14.59	80.51.28	82.28. 8
17		84. 5. 2	85.42. 7	87.19.25	88.56.55	90.34.37	92.12.31	93.50.37	95.28.55
18		97. 7.24	98.46. 5	100.24.56	102. 3.58	103.43.11	105.22.34	107. 2. 5	108.41.49
19		110.21.41	112. 1.43	113.41.53	115.22.12	117. 2.39	118.43.13	120.23.55	

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
17	Regulus.					59. 10. 31	60. 55. 46	62. 41. 12	64.26.51
18		66. 12. 42	67. 58. 45	69. 44. 59	71. 31. 24	73. 18. 0	75. 4. 47	76. 51. 45	78.38.53
19		80. 26. 12							
19	Spica ♍	26. 23. 11	28. 10. 42	29. 58. 22	31. 46. 13	33. 34. 13	35. 22. 22	37. 10. 39	38. 59. 3
20		40. 47. 35	42. 36. 14	44. 24. 58	46. 13. 48	48. 2. 43	49. 51. 44	51. 40. 48	53.29.56
21		55. 19. 7	57. 8. 20	58. 57. 33	60. 46. 48	62. 36. 3	64. 25. 16	66. 14. 31	68. 3.44
22		69. 52. 54							
22	Antares	23. 58. 29	25. 47. 36	27. 36. 39	29. 25. 37	31. 14. 30	33. 3. 16	34. 51. 55	36.40.26
23		38. 28. 49	40. 17. 3	42. 5. 6	43. 52. 58	45. 40. 40	47. 28. 9	49. 15. 24	51. 2.26
24		52. 49. 15	54. 35. 49	56. 22. 7	58. 8. 9	59. 53. 55	61. 39. 24	63. 24. 34	65. 9.27
25		66. 54. 2	68. 38. 17	70. 22. 13	72. 5. 49	73. 49. 6	75. 32. 2	77. 14. 38	78.56.52
26		80. 38. 46	82. 20. 18	84. 1. 28	85. 42. 17	87. 22. 45	89. 2. 50	90. 42. 34	92.21.56
27		94. 0. 57	95. 39. 36	97. 17. 54	98. 55. 50	100. 33. 25	102. 10. 38	103. 47. 30	105.24. 1
28		107. 0. 10							
28	α Aquilæ.	60. 54. 53	62. 8. 45	63. 22. 55	64. 37. 19	65. 51. 58	67. 6. 49	68. 21. 49	69.36.56
29		70. 52. 11	72. 7. 28	73. 22. 47	74. 38. 8	75. 53. 32	77. 8. 56	78. 24. 17	79.39.37
30		80. 54. 56							
30	Fomal-haut.	51. 44. 19	53. 8. 29	54. 32. 43	55. 57. 1	57. 21. 21	58. 45. 44	60. 10. 7	61.34.32
31		62. 58. 57	64. 23. 20	65. 47. 44	67. 12. 7	68. 36. 30	70. 0. 52	71. 25. 15	72.49.37
A. 1		74. 14. 0							

Configurations of the SATELLITES of JUPITER at 10 o'Clock in the Evening.



AUGUST 1782.

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	Th.	Lammas-Day.
2	F.	
3	Sa.	
4	*Su.*	*10th Sunday after Trinity.*
5	M.	
6	Tu.	Transfig. of our Lord.
7	W.	Name of Jeſus.
8	Th.	
9	F.	
10	Sa.	St. Lawrence.
11	*Su.*	*11 S.aft.Tr. Prs.of Brunſ. [born.*
12	M.	*Pr. of Wales born* 1762.
13	Tu.	
14	W.	
15	Th.	
16	F.	*Prince Frederick born.*
17	Sa.	
18	*Su.*	*12th Sunday after Trinity.*
19	M.	
20	Tu.	
21	W.	*Pr. William Henry born.*
22	Th.	
23	F.	
24	Sa.	*St. Bartholomew.*
25	*Su.*	*13th Sunday after Trinity.*
26	M.	
27	Tu.	
28	W.	St. Auguſtine.
29	Th.	Beheading St. John Bapt.
30	F.	
31	Sa.	

Phaſes of the Moon.

	D.	H.	M.
New Moon —	8.	15.	9
Firſt Quarter —	15.	15.	58
Full Moon —	22.	13.	16
Laſt Quarter —	30.	10.	28

Other Phenomena.

D.
1. ☾ δ ♈ $10^h. 21'$.
♀ μ ♊ diff.Lat. $31'$.
2. ☾ η Pleiadum $4^h. 55'$.
☿ Stationary.
4. ☾ β ♉ $2^h. 20'$.
6. ☾ ι ♊ $5^h. 50'$.
7. ☾ 2 ad ψ ♋ $1^h. 25'$.
10. ☾ σ ♌ $19^h. 24'$.
11. ☾ β ♍ $10^h. 11'$.
☾ η ♍ $23^h. 41'$.
12. ♀ δ ♊ diff. Lat. $32'$.
13. ☾ α ♍ Im. $8^h. 31'\frac{1}{2}$.
* $3'$N. of ☽'s center.
☽ ſets.
15. ♃ Stationary.
16. ☾ σ ♏ $11^h. 20'$.
☾ α ♏ $14^h. 39'$.
18. ☾ δ ♐ $8^h. 30'$.
19. ☾ τ ♐ $1^h. 52'$.
21. ☾ ε ♑ $14^h. 39'$.
22. ☉ enters ♍ at $14^h. 32'$.
26. ☾ ε ♓ $0^h. 17'$.
☾ ζ ♓ $4^h. 50'$.
29. ♄ Stationary.
☾ η Pleiadum $12^h. 59'$.
♀ δ ♋ diff. Lat. $4'$.
31. ☾ β ♉ $10^h. 35'$.

AUGUST 1782.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Afc. in Time.	Sun's Declin. North.	Equat. of Time. Add.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	Th.	4. 9. 14. 1	8.46.42,1	17. 58. 6	5. 51,8	3,8
2	F.	4. 10. 11. 29	8.50.34,8	17. 42. 44	5. 48,0	4,5
3	Sa.	4. 11. 8. 58	8.54.26,9	17. 27. 5	5. 43,5	5,0
4	*Su.*	4. 12. 6. 29	8.58.18,4	17. 11. 8	5. 38,5	5,6
5	M.	4. 13. 4. 1	9. 2. 9,4	16. 54. 55	5. 32,9	6,2
6	Tu.	4. 14. 1. 34	9. 5.59,7	16. 38. 26	5. 26,7	6,7
7	W.	4. 14. 59. 9	9. 9.49,5	16. 21. 40	5. 20,0	7,3
8	Th.	4. 15. 56. 45	9.13.38,8	16. 4. 38	5. 12,7	7,9
9	F.	4. 16. 54. 22	9.17.27,4	15. 47. 21	5. 4,8	8,5
10	Sa.	4. 17. 51. 59	9.21.15,4	15. 29. 48	4. 56,3	9,1
11	*Su.*	4. 18. 49. 38	9.25. 2,8	15. 12. 1	4. 47,2	9,7
12	M.	4. 19. 47. 18	9.28.49,7	14. 53. 59	4. 37,5	10,2
13	Tu.	4. 20. 44. 59	9.32.36,0	14. 35. 43	4. 27,3	10,8
14	W.	4. 21. 42. 42	9.36.21,8	14. 17. 13	4. 16,5	11,2
15	Th.	4. 22. 40. 25	9.40. 7,1	13. 58. 29	4. 5,3	11,9
16	F.	4. 23. 38. 9	9.43.51,7	13. 39. 32	3. 53,4	12,4
17	Sa.	4. 24. 35. 54	9.47.35,8	13. 20. 22	3. 41,0	13,0
18	*Su.*	4. 25. 33. 40	9.51.19,3	13. 1. 0	3. 28,0	13,5
19	M.	4. 26. 31. 27	9.55. 2,4	12. 41. 25	3. 14,5	13,9
20	Tu.	4. 27. 29. 15	9.58.45,0	12. 21. 38	3. 0,6	14,5
21	W.	4. 28. 27. 5	10. 2.27,1	12. 1. 40	2. 46,1	14,8
22	Th.	4. 29. 24. 56	10. 6. 8,7	11. 41. 30	2. 31,3	15,3
23	F.	5. 0. 22. 48	10. 9.49,9	11. 21. 9	2. 16,0	15,8
24	Sa.	5. 1. 20. 42	10.13.30,7	11. 0. 37	2. 0,2	16,2
25	*Su.*	5. 2. 18. 38	10.17.11,0	10. 39. 54	1. 44,0	16,6
26	M.	5. 3. 16. 35	10.20.50,9	10. 19. 1	1. 27,4	17,0
27	Tu.	5. 4. 14. 34	10.24.30,5	9. 57. 58	1. 10,4	17,3
28	W.	5. 5. 12. 35	10.28. 9,7	9. 36. 47	0. 53,1	17,6
29	Th.	5. 6. 10. 38	10.31.48,6	9. 15. 26	0. 35,5	17,9
30	F.	5. 7. 8. 42	10.35.27,2	8. 53. 55	0. 17,6	18,2
31	Sa.	5. 8. 6. 50	10.39. 5,4	8. 32. 15	Sub. 0,6	18,6

Days of the Month.	Semidiameter of the Sun.	Time of D° paſſing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Diſtance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	15. 49,0	1. 6,5	2. 23,6	0,006231	0. 10. 7
7	15. 49,9	1. 6,0	2. 23,9	0,005846	0. 9. 48
13	15. 51,0	1. 5,5	2. 24,3	0,005377	0. 9. 29
19	15. 52,1	1. 5,1	2. 24,6	0,004837	0. 9. 10
25	15. 53,3	1. 4,7	2. 24,9	0,004261	0. 8. 50

Eclipſes of the SATELLITES of JUPITER.

I. Satellite. Emerſions.

Days	H. M. S.
1	0. 33. 8
2	19. 2. 8
4	13. 31. 10
6	8. 0. 12
8	2. 29. 16
9	20. 58. 22
11	15. 27. 30
13	9* 56. 40
15	4. 25. 53
16	22. 55. 5
18	17. 24. 20
20	11. 53. 39
22	6. 22. 57
24	0. 52. 17
25	19. 21. 40
27	13. 51. 2
29	8* 20. 24
31	2. 49. 48

II. Satellite. Emerſions.

Days	H. M. S.
3	16. 40. 46
7	5. 58. 35
10	19. 16. 32
14	8* 34. 42
17	21. 52. 56
21	11. 11. 16
25	0. 29. 46
28	13. 48. 20

III. Satellite.

Days	H. M. S.	
3	14. 20. 17	I
3	17. 9. 31	E
10	18. 20. 51	I
10	21. 11. 14	E
17	22. 21. 56	I
18	1. 13. 29	E
25	2. 23. 32	I
25	5. 16. 11	E

IV. Satellite.

13	12. 52. 1	I
13	14. 46. 35	E
30	6. 55. 21	I
30	9* 2. 1	E

AUGUST 1782.

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Paſſage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
MERCURY. Greateſt Elong. 11^{d}.						
1	11. 3. 5	6. 41 S	3. 26. 5	3. 46 S	17. 15 N	22. 59
4	11. 15. 46	6. 4	3. 26. 6	3. 1	17. 59	22. 50
7	11. 29. 42	5. 3	3. 27. 7	2. 12	18. 36	22. 44
10	0. 14. 57	3. 36	3. 29. 10	1. 22	19. 1	22. 42
13	1. 1. 32	1. 44 S	4. 2. 12	0. 35 S	19. 7	22. 46
16	1. 19. 20	0. 26 N	4. 6. 9	0. 8 N	18. 53	22. 53
19	2. 7. 59	2. 39	4. 10. 49	0. 44	18. 15	23. 2
22	2. 26. 55	4. 37	4. 16. 5	1. 12	17. 11	23. 13
25	3. 15. 29	6. 3	4. 21. 44	1. 32	15. 43	23. 25
28	4. 3. 5	6. 50	4. 27. 33	1. 43	13. 57	23. 37
31	4. 19. 22	6. 59	5. 3. 26	1. 47	11. 55	23. 48
VENUS.						
1	1. 2. 59	2. 15 S	3. 1. 42	1. 23 S	22. 4 N	21. 22
7	1. 12. 36	1. 48	3. 8. 43	1. 3	22. 7	21. 29
13	1. 22. 13	1. 18	3. 15. 45	0. 44	21. 48	21. 37
19	2. 1. 51	0. 45	3. 22. 51	0. 25	21. 7	21. 45
25	2. 11. 31	0. 11	4. 0. 0	0. 6	20. 5	21. 53
MARS. ☌ 23^{d}. 17$^{h}\frac{1}{2}$.						
1	4. 21. 9	1. 51 N	4. 16. 38	1. 9 N	16. 58 N	0. 31
7	4. 23. 46	1. 51	4. 20. 27	1. 9	15. 48	0. 23
13	4. 26. 24	1. 50	4. 24. 16	1. 9	14. 32	0. 15
19	4. 29. 1	1. 49	4. 28. 5	1. 8	13. 14	0. 7
25	5. 1. 38	1. 48	5. 1. 53	1. 7	11. 51	0. 0
JUPITER.						
1	8. 28. 1	0. 15 N	8. 19. 32	0. 17 N	22. 46 S	8. 26
7	8. 28. 31	0. 14	8. 19. 20	0. 16	22. 46	8. 3
13	8. 29. 0	0. 13	8. 19. 14	0. 15	22. 47	7. 40
19	8. 29. 30	0. 13	8. 19. 15	0. 14	22. 48	7. 18
25	8. 29. 59	0. 12	8. 19. 22	0. 13	22. 49	6. 56
SATURN.						
1	8. 29. 24	0. 57 N	8. 25. 23	1. 2 N	22. 21 S	8. 52
7	8. 29. 34	0. 57	8. 25. 9	1. 1	22. 22	8. 28
13	8. 29. 45	0. 56	8. 24. 59	1. 0	22. 22	8. 4
19	8. 29. 56	0. 56	8. 24. 52	0. 59	22. 23	7. 41
25	9. 0. 7	0. 56	8. 24. 48	0. 58	22. 24	7. 19

AUGUST 1782.

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M S.	D. M. S.	D.M.S.
1	Th.	1. 12. 42. 6	1. 18. 37. 19	2. 49. 35 N	3 14.59 N
2	F.	1. 24. 32. 19	2. 0. 27. 42	3. 38. 18	3.59.15
3	Sa.	2. 6. 24. 5	2. 12. 22. 5	4. 17. 42	4.33.22
4	*Su.*	2. 18. 22. 9	2. 24. 24. 45	4. 46. 11	4.55.51
5	M.	3. 0. 30. 18	3. 6. 39. 7	5. 2. 16	5. 5.15
6	Tu.	3. 12. 51. 26	3. 19. 7. 30	5. 4. 41	5. 0.27
7	W.	3. 25. 27. 21	4. 1. 51. 6	4. 52. 31	4.40.49
8	Th.	4. 8. 18. 41	4. 14. 50. 0	4. 25. 27	4. 6.26
9	F.	4. 21. 24. 55	4. 28. 3. 20	3. 43. 58	3.18.14
10	Sa.	5. 4. 44. 58	5. 11. 29. 38	2. 49. 32	2.18.13
11	*Su.*	5. 18. 17. 6	5. 25. 7. 9	1. 44. 40	1. 9.22 N
12	M.	6. 1. 59. 32	6. 8. 54. 8	0. 32. 48 N	0. 4.28 S
13	Tu.	6. 15. 50. 41	6. 22. 49. 5	0. 41. 53 S	1.18.53
14	W.	6. 29. 49. 10	7. 6. 50. 47	1. 54. 51	2.29.13
15	Th.	7. 13. 53. 49	7. 20. 58. 5	3. 1. 26	3.30.58
16	F.	7. 28. 3. 25	8. 5. 9. 38	3. 57. 20	4.20. 6
17	Sa.	8. 12. 16. 27	8. 19. 23. 34	4. 38. 53	4.53.23
18	*Su.*	8. 26. 30. 37	9. 3. 37. 13	5. 3. 21	5. 8.38
19	M.	9. 10. 42. 51	9. 17. 47. 6	5. 9. 10	5. 4.59
20	Tu.	9. 24. 49. 20	10. 1. 49. 12	4. 56. 13	4.43. 3
21	W.	10. 8. 46. 2	10. 15. 39. 27	4. 25. 46	4. 4.45
22	Th.	10. 22. 28. 59	10. 29. 14. 19	3. 40. 23	3.13. 8
23	F.	11. 5. 55. 9	11. 12. 31. 17	2. 43. 29	2.11.56
24	Sa.	11. 19. 2. 37	11. 25. 29. 13	1. 38. 59	1. 5. 7 S
25	*Su.*	0. 1. 51. 5	0. 8. 8. 26	0. 30. 49 S	0. 3.30 N
26	M.	0. 14. 21. 30	0. 20. 30. 39	0. 37. 25 N	1.10.33
27	Tu.	0. 26. 36. 14	1. 2. 38. 46	1. 42. 37	2.13.14
28	W.	1. 8. 38. 42	1. 14. 36. 37	2. 42. 12	3. 9.13
29	Th.	1. 20. 33. 3	1. 26. 28. 40	3. 34. 6	3.56.36
30	F.	2. 2. 24. 1	2. 8. 19. 47	4. 16. 34	4.33.49
31	Sa.	2. 14. 16. 32	2. 20. 14. 57	4. 48. 14	4.50.30

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Paſsage over Merid H. M.	☽'s Right Aſcen. at Noon. D. M.	☽'s Right Aſc. at Midn. D. M.	☽'s Declination at Noon. D. M.	☽'s Declination at Midn. D. M.
1	Th.	23	18. 23	39. 21	45. 12	18. 22 N	20. 30 N
2	F.	24	19. 11	51. 12	57. 22	22. 27	24. 10
3	Sa.	25	20. 1	63. 43	70. 13	25. 38	26. 49
4	*Su.*	26	20. 53	76. 53	83. 40	27. 42	28. 16
5	M.	27	21. 46	90. 34	97. 32	28. 30	28. 23
6	Tu.	28	22. 40	104. 31	111. 30	27. 54	27. 4
7	W.	29	23. 33	118. 25	125. 15	25. 52	24. 20
8	Th.	1	☌	131. 58	138. 33	22. 29	20. 20
9	F.	2	0. 24	145. 2	151. 24	17. 55	15. 16
10	Sa.	3	1. 12	157. 39	163. 49	12. 24	9. 23
11	*Su.*	4	1. 58	169. 55	175. 59	6. 14 N	3. 0 N
12	M.	5	2. 44	182. 3	188. 9	0. 17 S	3. 36 S
13	Tu.	6	3. 31	194. 19	200. 36	6. 53	10. 6
14	W.	7	4. 20	207. 2	213. 39	13. 13	16. 10
15	Th.	8	5. 12	220. 29	227. 32	18. 55	21. 24
16	F.	9	6. 9	234. 50	242. 21	23. 36	25. 27
17	Sa.	10	7. 9	250. 6	258. 1	26. 54	27. 55
18	*Su.*	11	8. 13	266. 3	274. 6	28. 29	28. 34
19	M.	12	9. 15	282. 7	290. 1	28. 11	27. 19
20	Tu	13	10. 15	297. 44	305. 14	26. 2	24. 22
21	W.	14	11. 11	312. 28	319. 25	22. 21	20. 3
22	Th.	15	12. 1	326. 6	332. 32	17. 30	14. 46
23	F.	16	12. 48	338. 44	344. 44	11. 53	8. 54
24	Sa.	17	13. 32	350. 35	356. 17	5. 52 S	2. 48 S
25	*Su*	18	14. 15	1. 54	7. 27	0. 16 N	3. 18 N
26	M.	19	14. 57	12. 58	18. 29	6. 15	9. 7
27	Tu.	20	15. 39	24. 2	29. 38	11. 52	14. 29
28	W,	21	16. 23	35. 21	41. 9	16. 57	19. 15
29	Th.	22	17. 9	47. 5	53. 10	21. 21	23. 13
30	F.	23	17. 57	59. 24	65. 46	24. 51	26. 13
31	Sa.	24	18. 48	72. 18	78. 58	27. 18	28. 5

AUGUST 1782.

Days of the Month.	Days of the Week.	Semid$^{\text{r}}$. ☽ at Noon. M. S.	Semid$^{\text{r}}$. ☽ at Midnight. M. S.	Hor. Par. ☽ at Noon. M. S.	Hor. Par. ☽ at Midnight. M. S.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
1	Th.	14. 50	14. 49	54. 27	54. 23	5193	5198
2	F.	14. 49	14. 49	54. 21	54. 22	5201	5199
3	Sa.	14. 50	14. 51	54. 26	54. 31	5194	5187
4	*Su.*	14. 53	14. 56	54. 39	54. 49	5177	5163
5	M.	14. 59	15. 3	55. 1	55. 14	5148	5130
6	Tu.	15. 7	15. 11	55. 28	55. 44	5112	5091
7	W.	15. 16	15. 20	56. 1	56. 18	5069	5048
8	Th.	15. 25	15. 30	56. 35	56. 52	5026	5004
9	F.	15. 35	15. 39	57. 9	57. 26	4983	4961
10	Sa.	15. 44	15. 48	57. 43	57. 58	4940	4921
11	*Su.*	15. 52	15. 55	58. 12	58. 25	4903	4887
12	M.	15. 58	16. 1	58. 37	58. 48	4872	4859
13	Tu.	16. 4	16. 6	58. 58	59. 5	4846	4838
14	W.	16. 8	16. 9	59. 11	59. 17	4831	4823
15	Th.	16. 11	16. 11	59. 22	59. 25	4817	4813
16	F.	16. 12	16. 12	59. 28	59. 29	4810	4809
17	Sa.	16. 12	16. 12	59. 28	59. 27	4810	4811
18	*Su.*	16. 11	16. 10	59. 24	59. 19	4815	4821
19	M.	16. 8	16. 6	59. 12	59. 4	4830	4839
20	Tu.	16. 3	16. 0	58. 55	58. 43	4850	4865
21	W.	15. 56	15. 52	58. 30	58. 16	4881	4898
22	Th.	15. 48	15. 43	57. 59	57. 42	4919	4941
23	F.	15. 38	15. 33	57. 23	57. 4	4965	4989
24	Sa.	15. 28	15. 23	56. 45	56. 26	5013	5037
25	*Su.*	15. 18	15. 13	56. 7	55. 49	5062	5085
26	M.	15. 8	15. 4	55. 32	55. 16	5107	5128
27	Tu.	15. 0	14. 57	55. 2	54. 50	5146	5162
28	W.	14. 54	14. 52	54. 40	54. 32	5175	5186
29	Th.	14. 50	14. 49	54. 26	54. 23	5194	5198
30	F.	14. 49	14. 50	54. 23	54. 25	5198	5195
31	Sa.	14. 51	14. 53	54. 30	54. 37	5189	5179

Diſtances of ☽'s Center from Sun, and from Stars eaſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours	18 Hours.	21 Hours.
		D. M. S.	D M. S.	D. M. S.	D. M. S	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	The Sun.	86. 32. 11	85. 10. 38	83. 49. 9	82. 27. 42	81. 6. 18	79. 44. 56	78. 23. 35	77. 2. 15
2		75. 40. 56	74. 19. 37	72. 58. 16	71. 36. 54	70. 15. 31	68. 54. 5	67. 32. 36	66. 11. 3
3		64. 49. 27	63. 27. 45	62. 5. 57	60. 44. 4	59. 22. 5	58. 0. 1	56. 37. 49	55. 15. 30
4		53. 53. 4	52. 30. 29	51. 7. 46	49. 44. 53	48. 21. 52	46. 58. 41	45. 35. 20	44. 11. 49
5		42. 48. 8	41. 24. 17	40. 0. 15	38. 36. 2				
10	Spica ♍					39. 32. 32	37. 50. 42	36. 8. 41	34. 26. 29
11		32. 44. 6	31. 1. 32	29. 18. 49	27. 35. 56	25. 52. 54	24. 9. 43	22. 26. 23	20. 42. 54
12		18. 59. 18							
12	Antares.	64. 52. 18	63. 8. 24	61. 24. 24	59. 40. 17	57. 56. 2	56. 11. 39	54. 27. 9	52. 42. 33
13		50. 57. 49	49. 12. 59	47. 28. 3	45. 43. 0	43. 57. 52	42. 12. 38	40. 27. 19	38. 41. 54
14		36. 56. 25	35. 10. 52	33. 25. 14	31. 39. 31	29. 53. 43			
14	α Aquilæ.					84. 8. 34	82. 41. 15	81. 13. 58	79. 46. 47
15		78. 19. 44	76. 52. 52	75. 26. 12	73. 59. 48	72. 33. 44	71. 7. 59	69. 42. 36	68. 17. 39
16		66. 53. 9	65. 29. 9	64. 5. 41	62 42. 48	61. 20. 30			
16	Fomal-haut.					84. 22. 53	82. 41. 39	81. 0. 28	79. 19. 18
17		77. 38. 12	75. 57. 10	74. 16. 15	72. 35. 26	70. 54. 44	69. 14. 11	67. 33. 46	65. 53. 34
18		64. 13. 32	62. 33. 44	60. 54. 10	59. 14. 54	57. 35. 56	55. 57. 16	54. 18. 58	52. 41. 6

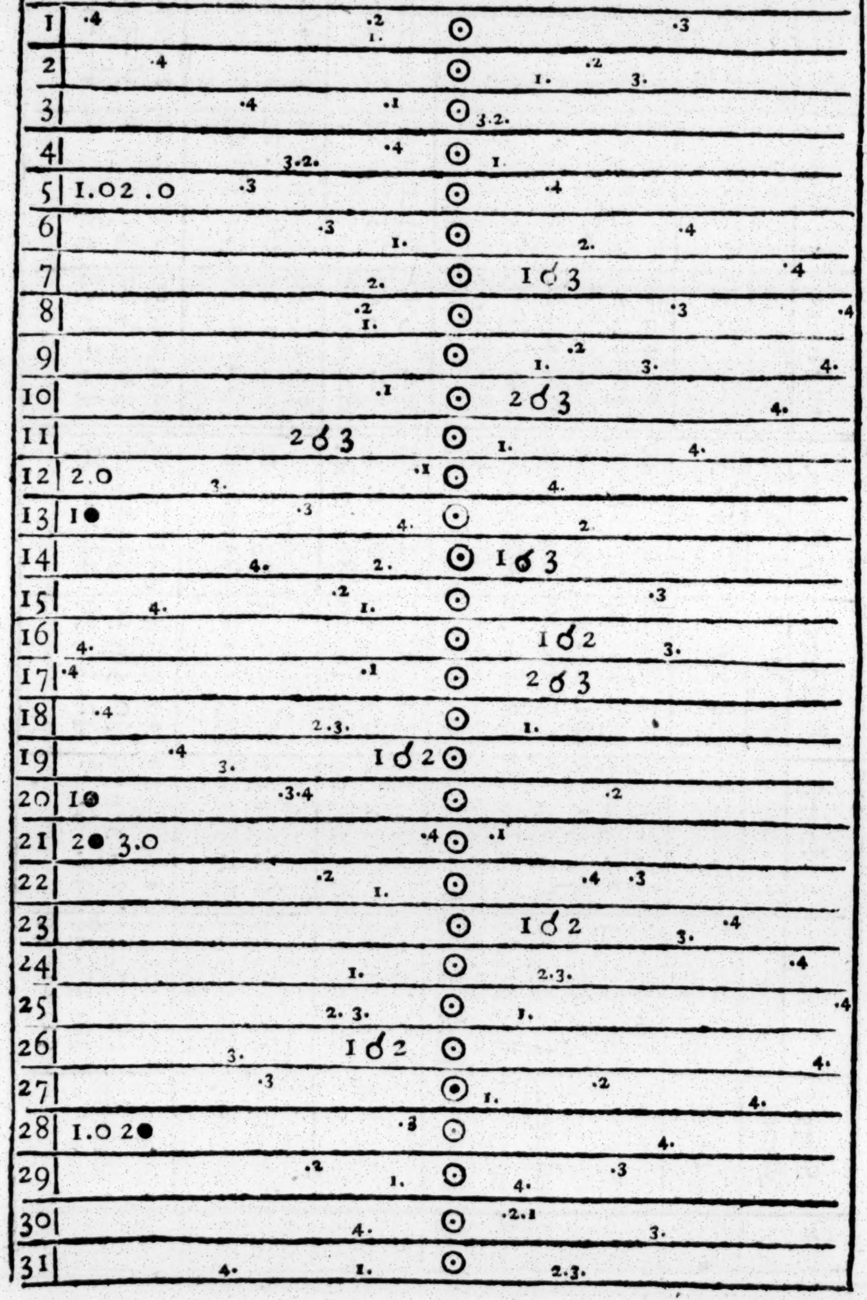
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M S.	D. M S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
19	Fomal-haut.	51. 3. 42	49. 26. 46	47. 50. 22	46. 14. 35	44. 39. 31	43. 5. 11	41. 31. 39	39.58.59
20		38. 27. 13							
20	α Arietis.	100. 29. 3	98. 45. 6	97. 1. 20	95. 17. 42	93. 34. 13	91. 50. 54	90. 7. 45	88.24.47
21		86. 42. 0	84. 59. 24	83. 17. 1	81. 34. 50	79. 52. 52	78. 11. 8	76. 29. 38	74.48.22
22		73. 7. 21	71. 26. 35	69. 46. 5	68. 5. 51	66. 25. 53	64. 46. 12	63. 6. 49	61.27.43
23		59. 48. 55	58. 10. 26	56. 32. 16	54. 54. 25	53. 16. 53	51. 39. 42	50. 2. 52	48.26.23
24		46. 50. 15							
24	Aldeba-ran.	77. 36. 35	76. 0. 42	74. 25. 7	72. 49. 51	71. 14. 54	69. 40. 15	68. 5. 56	66.31.55
25		64. 58. 14	63. 24. 52	61. 51. 48	60. 19. 4	58. 46. 40	57. 14. 36	55. 42. 52	54.11.27
26		52. 40. 23	51. 9. 35	49. 39. 14	48. 9. 10	46. 39. 28	45. 10. 7	43. 41. 9	42.12.33
27		40. 44. 20	39. 16. 29	37. 49. 3	36. 22. 4	34. 55. 32	33. 29. 27	32. 3. 54	30.38.56
28		29. 14. 36	27. 50. 58	26. 28. 2	25. 5. 52	23. 44. 33			
28	Pollux.					65. 25. 15	63. 55. 59	62. 26. 49	60.57.45
29		59. 28. 45	57. 59. 50	56. 30. 58	55. 2. 9	53. 33. 23	52. 4. 40	50. 35. 58	49. 7.16
30		47. 38. 36	46. 9. 55	44. 41. 14	43. 12. 31	41. 43. 46			
27	The Sun.					122. 3. 11	120. 40. 10	119. 17. 17	117.54.34
28		116. 31. 59	115. 9. 33	113. 47. 14	112. 25. 3	111. 2. 59	109. 41. 2	108. 19. 11	106.57.25
29		105. 35. 44	104. 14. 7	102. 52. 34	101. 31. 3	100. 9. 35	98. 48. 9	97. 26. 43	96. 5.18
30		94. 43. 54	93. 22. 29	92. 1. 3	90. 39. 35	89. 18. 6	87. 56. 35	86. 34. 59	85.13.20
31		83. 51. 36	82. 29. 46	81. 7. 51	79. 45. 48	78. 23. 39	77. 1. 23	75. 38. 58	74.16.24
S. 1		72. 53. 41							

Diſtances of ☽'s Center from Sun, and from Stars weſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	α Pegaſi.	53. 36. 45	54. 56. 37	56. 16. 44	57. 37. 6	58. 57. 41	60. 18. 28	61. 39. 28	63. 0. 40
2		64. 22. 4	65. 43. 38	67. 5. 22	68. 27. 17	69. 49. 22	71. 11. 37	72. 34. 1	73. 56. 34
3		75. 19. 17							
3	α Arietis.	32. 1. 3	33. 27. 28	34. 54. 8	36. 21. 5	37. 48. 17	39. 15. 45	40. 43. 28	42. 11. 25
4		43. 39. 38	45. 8. 4	46. 36. 45	48. 5. 40	49. 34. 49	51. 4. 12	52. 33. 49	54. 3. 40
5		55. 33. 46							
5	Aldebaran.	25. 57. 2	27. 21. 48	28. 47. 20	30. 13. 35	31. 40. 31	33. 8. 6	34. 36. 17	36. 5. 1
6		37. 34. 18	39. 4. 0	40. 34. 9	42. 4. 45	43. 35. 47	45. 7. 13	46. 39. 2	48. 11. 12
7		49. 43. 46							
11	The Sun.							39. 0. 40	40. 36. 28
12		42. 12. 26	43. 48. 35	45. 24. 54	47. 1. 22	48. 38. 0	50. 14. 46	51. 51. 41	53. 28. 43
13		55. 5. 53	56. 43. 10	58. 20. 35	59. 58. 6	61. 35. 44	63. 13. 28	64. 51. 18	66. 29. 14
14		68. 7. 15	69. 45. 21	71. 23. 32	73. 1. 47	74. 40. 7	76. 18. 32	77. 57. 1	79. 35. 33
15		81. 14. 9	82. 52. 48	84. 31. 30	86. 10. 14	87. 49. 2	89. 27. 53	91. 6. 46	92. 45. 41
16		94. 24. 39	96. 3. 38	97. 42. 38	99. 21. 39	101. 0. 42	102. 39. 45	104. 18. 49	105. 57. 53
17		107. 36. 57	109. 16. 1	110. 55. 5	112. 34. 7	114. 13. 9	115. 52. 9	117. 31. 7	119. 10. 3
18		120. 48. 57							
15	Spica ♍					30. 9. 40	31. 55. 52	33. 42. 7	35. 28. 25
16		37. 14. 44	39. 1. 5	40. 47. 28	42. 33. 55	44. 20. 19	46. 6. 46	47. 53. 14	49. 39. 42

Days.	Stars Names.	Noon.	3 Hours	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S
17	Spica ♍	51. 26. 7	53. 12. 35	54. 59. 3	56. 45. 30	58. 31. 56	60. 18. 21	62. 4. 44	63. 51. 6
18		65. 37. 26							
18	Antares.	19. 43. 5	21. 29. 23	23. 15. 38	25. 1. 49	26. 47. 59	28. 34. 4	30. 20. 6	32. 6 2
19		33. 51. 55	35. 37. 43	37. 23. 24	39. 8. 59	40. 54. 29	42. 39. 51	44. 25. 5	46. 10. 12
20		47. 55. 11	49. 40. 3	51. 24. 47	53. 9. 21	54. 53. 46	56. 38. 0	58. 22. 4	60. 5. 56
21		61. 49. 38	63. 33. 8	65. 16. 26	66. 59. 32	68. 42. 26	70. 25. 6	72. 7. 33	73. 49. 46
22		75. 31. 45	77. 13. 30	78. 55. 0	80. 36. 15	82. 17. 16	83. 58. 0	85. 38. 29	87. 18. 42
23		88. 58. 39	90. 38. 20	92. 17. 45	93. 56. 53	95. 35. 43	97. 14. 17	98. 52. 33	100. 30. 30
24		102. 8. 9							
24	ι Aquilæ.	57. 9. 40	58. 22. 37	59. 36. 2	60. 49. 55	62. 4. 11	63. 18. 49	64. 33. 44	65. 48. 56
25		67. 4. 24	68. 20. 2	69. 35. 49	70. 51. 44	72. 7. 47	73. 23. 53	74. 40. 0	75. 56. 9
26		77. 12. 20	78. 28. 29	79. 44. 36	81. 0. 41	82. 16. 41			
26	Fomal-haut.					53. 25. 56	54. 51. 5	56. 16. 15	57. 41. 27
27		59. 6. 39	60. 31. 51	61. 57. 3	63. 22. 13	64. 47. 23	66. 12. 29	67. 37. 33	69. 2. 34
28		70. 27. 33	71. 52. 28	73. 17. 21	74. 42. 11	76. 6. 58	77. 31. 43	78. 56. 25	80. 21. 5
29		81. 45. 42							
29	ι Arietis.	17. 2. 50	18. 23. 19	19. 44. 42	21. 6. 53	22. 29. 50	23. 53. 26	25. 17. 38	26. 42. 21
30		28. 7. 28	29. 32. 50	30. 58. 30	32. 24. 28	33. 50. 42	35. 17. 8	36. 43. 48	38. 10. 42
31		39. 37. 48	41. 5. 6	42. 32. 36	44. 0. 18	45. 28. 13	46. 56. 20	48. 24. 39	49. 53. 10
S. 1		51. 21. 54							

Configurations of the SATELLITES of JUPITER at 9 o' Clock in the Evening.



I. SEPTEMBER 1782.

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	*Su.*	*14th Su. after Tr.* Giles.
2	M.	London burnt 1666, O.S.
3	Tu.	
4	W.	
5	Th.	
6	F.	
7	Sa.	Enurchus.
8	*Su.*	*15th Sunday after Trinity.*
9	M.	[Nativity of V. Mary.
10	Tu.	
11	W.	
12	Th.	
13	F.	
14	Sa.	Holy Croſs.
15	*Su.*	*16th Sunday after Trinity.*
16	M.	
17	Tu.	Lambert.
18	W.	
19	Th.	
20	F.	
21	Sa.	*St. Matthew.*
22	*Su.*	*17th Su. after Tr.* K. *Geo.*
23	M.	[III. *crown'd* 1761.
24	Tu.	
25	W.	
26	Th.	St. Cyprian.
27	F.	
28	Sa.	
29	*Su.*	*18th Su. aft. Tr.* St. *Mich.*
30	M.	S. Jer. [*Prs. Char. Aug. b.*

Phaſes of the Moon.

	D.	H.M.	
New Moon	7.	2.	22
Firſt Quarter	13.	21.	19
Full Moon	21.	2.	13
Laſt Quarter	29.	5.	1

Other Phenomena.

D.
1. ☾ κ Aurigæ 8^{h}. 5′.
2. ☾ ι ♊ 14^{h}. 30′.
3. ☾ 2 ad ⸸ ♋ 10^{h}. 12′.
5. ☾ η ♌ 14^{h}. 55′.
9. ☾ α ♍ 15^{h}. 16′.
12. ☾ σ ♏ 16^{h}. 52′.
☾ α ♏ 20^{h}. 10′.
14. ♀ ν ♌ diff. Lat. 48′.
☾ δ ♐ 14^{h}. 13′.
15. ☾ τ ♐ 7^{h}. 49′.
16. ♀ α ♌ diff. Lat. 26′.
17. ☾ ε ♑ 21^{h}. 51′.
21. ☽ eclipſed, inviſible.
22. ☾ ε ♓ 8^{h}. 37′.
☉ enters ♎ at 10^{h}. 59′.
☾ ζ ♓ 13^{h}. 9′.
25. ☾ η Pleiadum 20^{h}. 59′.
27. ☾ β ♉ 18^{h}. 43′.
28. ♀ χ ♌ diff. Lat. 2′.
☾ κ Aurigæ 16^{h}. 26′.
29. ☾ ι ♊ 23^{h}. 18′.
30. ☾ 2 ad ⸸ ♋ 19^{h}. 19′.

SEPTEMBER 1782.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. North.	Equat. of Time. Sub.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	*Su.*	5. 9. 4. 59	10.42.43,2	8. 10. 29	0. 19,2	18,9
2	M.	5. 10. 3. 10	10.46.20,9	7. 48. 32	0. 38,1	19,1
3	Tu.	5. 11. 1. 23	10.49.58,4	7. 26. 29	0. 57,2	19,3
4	W.	5. 11. 59. 38	10.53.35,6	7. 4. 19	1. 16,5	19,5
5	Th.	5. 12. 57. 55	10.57.12,5	6. 42. 1	1. 36,0	19,8
6	F.	5. 13. 56. 13	11 0.49,3	6. 19. 37	1. 55,8	19,9
7	Sa.	5. 14. 54. 34	11. 4.25,8	5. 57. 6	2. 15,7	20,1
8	*Su.*	5. 15. 52. 57	11. 8. 2,2	5. 34. 29	2. 35,8	20,3
9	M.	5. 16. 51. 21	11.11.38,4	5. 11. 47	2. 56,1	20,5
10	Tu.	5. 17. 49. 48	11.15.14,5	4. 48. 59	3. 16,6	20,6
11	W.	5. 18. 48. 15	11.18.50,4	4. 26. 6	3. 37,2	20,7
12	Th.	5. 19. 46. 44	11.22.26,1	4. 3. 9	3. 57,9	20,8
13	F.	5. 20. 45. 16	11.26. 1,8	3. 40. 7	4. 18,7	20,9
14	Sa.	5. 21. 43. 48	11.29.37,4	3. 17. 3	4. 39,6	21,0
15	*Su.*	5. 22. 42. 22	11.33.12,9	2. 53. 54	5. 0,6	21,0
16	M.	5. 23. 40. 58	11.36.48,4	2. 30. 42	5. 21,6	21,1
17	Tu.	5. 24. 39. 35	11.40.23,8	2. 7. 27	5. 42,7	21,1
18	W.	5. 25. 38. 14	11.43.59,3	1. 44. 10	6. 3,8	21,0
19	Th.	5. 26. 36. 55	11.47.34,7	1. 20. 51	6. 24,8	21,0
20	F.	5. 27. 35. 37	11.51.10,2	0. 57. 29	6. 45,8	21,0
21	Sa.	5. 28. 34. 21	11.54.45,7	0. 34. 6	7. 6,8	20,8
22	*Su.*	5. 29. 33. 7	11.58.21,4	0. 10. 42	7. 27,6	20,8
				South.		
23	M.	6. 0. 31. 55	12. 1.57,1	0. 12. 43	7. 48,4	20,6
24	Tu.	6. 1. 30. 46	12. 5.33,0	0. 36. 9	8. 9,0	20,4
25	W.	6. 2. 29. 38	12. 9. 9,1	0. 59. 35	8. 29,4	20,3
26	Th.	6. 3. 28. 33	12.12.45,4	1. 23. 1	8. 49,7	20,0
27	F.	6. 4. 27. 30	12.16.21,9	1. 46. 27	9. 9,7	19,8
28	Sa.	6. 5. 26. 30	12.19.58,6	2. 9. 53	9. 29,5	19,
29	*Su.*	6. 6. 25. 32	12.23.35,5	2. 33. 17	9. 49,0	19,3
30	M.	6. 7. 24. 37	12.27.12,8	2. 56. 40	10. 8,3	18,9

Days.	Semidiameter of the Sun.	Time of D° paſſing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Diſtance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	15.55,0	1. 4,3	2.25,4	0.003559	0. 8.28
7	15.56,4	1. 4,1	2.25,7	0.002908	0. 8. 9
13	15.58,0	1. 4,0	2.26,2	0.002198	0. 7.50
19	15.59,5	1. 4,0	2.26,7	0.001461	0. 7.31
25	16. 1,2	1. 4,1	2.27,3	0.000722	0. 7.12

ECLIPSES of the SATELLITES of JUPITER.

I. Satellite. Emerſions.

Days	H. M. S.
1	21.19.19
3	15.48.46
5	10.18.15
7	4.47.44
8	23.17.12
10	17.46.41
12	12.16.11
14	6.45.43
16	1.15.14
17	19.44.43
19	14.14.14
21	8.43.43
23	3.13.14
24	21.42.43
26	16.12.13
28	10.41.40
30	5.11. 5

II. Satellite. Emerſions.

Days	H. M. S.
1	3. 6.59
4	16.25.42
8	5.44.33
11	19. 3.25
15	8*22.24
18	21.41.24
22	11. 0.23
26	0.19.23
29	13.38.22

III. Satellite.

Days.	H. M. S.	
1	6.25.31	I
1	9.19.10	E
8	10.27.51	I
8	13.22.35	E
15	14.30.15	I
15	17.26. 5	E
22	18.32.41	I
22	21.29.39	E
29	22.35. 5	I
30	1.33. 3	E

IV. Satellite.

Days.	H. M. S.	
16	1. 4.18	I
16	3.22.10	E

SEPTEMBER 1782. IV.

Days.	Heliocentric Longitude. S. D. M.	Heliocentric Latitude. D. M.	Geocentric Longitude. S. D. M.	Geocentric Latitude. D. M.	Declination. D. M.	Paſſage over Merid. H. M.
			MERCURY. Sup. ☌ 4^{d}. $21\frac{3}{4}^{h}$.			
1	4. 24. 29	6. 55 N	5. 5. 11	1. 53 N	11. 22 N	23. 51
4	5. 8. 51	6. 27	5. 11. 10	1. 42	8. 58	0. 0
7	5. 21. 54	5. 40	5. 16. 49	1. 33	6. 39	0. 9
10	6. 3. 47	4. 42	5. 22. 19	1. 20	4. 17	0. 19
13	6. 14. 41	3. 38	5. 27. 39	1. 4	1. 55 N	0. 27
16	6. 24. 48	2. 31	6. 2. 50	0. 46	0. 25 S	0. 35
19	7. 4. 18	1. 24	6. 7. 52	0. 27	2. 43	0. 42
22	7. 13. 19	0. 18 N	6. 12. 45	0. 6 N	4. 57	0. 49
25	7. 21. 58	0. 46 S	6. 17. 30	0. 16 S	7. 7	0. 55
28	8. 0. 23	1. 47	6. 22. 5	0. 37	9. 11	1. 1
30	8. 5. 55	2. 25	6. 25. 6	0. 52	10. 32	1. 5
			VENUS.			
1	2. 22. 48	0. 29 N	4. 8. 25	0. 15 N	18. 25 N	22. 2
7	3. 2. 30	1. 2	4. 15. 40	0. 32	16. 40	22. 9
13	3. 12. 13	1. 34	4. 22. 57	0. 47	14. 38	22. 17
19	3. 21. 57	2. 3	5. 0. 16	1. 0	12. 20	22. 24
25	4. 1. 41	2. 29	5. 7. 38	1. 12	9. 50	22. 31
			MARS.			
1	5. 4. 42	1. 46 N	5. 6. 21	1. 6 N	10. 13 N	23. 50
7	5. 7. 19	1. 45	5. 10. 10	1. 5	8. 47	23. 43
13	5. 9. 56	1. 43	5. 14. 0	1. 5	7. 18	23. 36
19	5. 12. 34	1. 41	5. 17. 51	1. 3	5. 47	23. 28
25	5. 15. 12	1. 39	5. 21. 41	1. 2	4. 16	23. 21
			JUPITER. □ 12^{d}. 17^{h}.			
1	9. 0. 34	0. 11 N	8. 19. 39	0. 12 N	22. 52 S	6. 31
7	9. 1. 3	0. 11	8. 20. 1	0. 11	22. 55	6. 11
13	9. 1. 33	0. 10	8. 20. 28	0. 10	22. 57	5. 52
19	9. 2. 2	0. 9	8. 21. 1	0. 9	23. 1	5. 32
25	9. 2. 32	0. 9	8. 21. 41	0. 9	23. 4	5. 13
			SATURN. □ 17^{d}. $11\frac{1}{4}^{h}$.			
1	9. 0. 19	0. 55 N	8. 24. 47	0. 57 N	22. 25 S	6. 54
7	9. 0. 30	0. 55	8. 24. 51	0. 56	22. 26	6. 32
13	9. 0. 41	0. 54	8. 24. 58	0. 55	22. 28	6. 11
19	9. 0. 52	0. 54	8. 25. 9	0. 54	22. 29	5. 50
25	9. 1. 2	0. 53	8. 25. 23	0. 53	22. 30	5. 30

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D. M S.
1	*Su.*	2. 26. 15. 34	3. 2. 18. 56	5. 7. 33 N	5. 12. 18 N
2	M.	3. 8. 25. 33	3. 14. 35. 58	5. 13. 34	5. 11. 13
3	Tu.	3. 20. 50. 29	3. 27. 9. 31	5. 5. 11	4. 55. 23
4	W.	4. 3. 33. 15	4. 10. 1. 55	4. 41. 47	4. 24. 27
5	Th.	4. 16. 35. 35	4. 23. 14. 14	4. 3. 27	3. 38. 50
6	F.	4. 29. 57. 43	5. 6. 45. 55	3. 10. 55	2. 39. 59
7	Sa.	5. 13. 38. 27	5. 20. 35. 3	2. 6. 20	1. 30. 29
8	*Su.*	5. 27. 35. 10	6. 4. 38. 22	0. 52. 55 N	0. 14. 15 N
9	M.	6. 11. 44. 11	6. 18. 52. 0	0. 24. 54 S	1. 3. 52 S
10	Tu.	6. 26. 1. 14	7. 3. 11. 27	1. 41. 59	2. 18. 35
11	W.	7. 10. 22. 5	7. 17. 32. 45	2. 53. 2	3. 24. 45
12	Th.	7. 24. 42. 55	8. 1. 52. 16	3. 53. 13	4. 18. 0
13	F.	8. 9. 0. 26	8. 16. 7. 8	4. 38. 41	4. 55. 1
14	Sa.	8. 23. 12. 3	9. 0. 15. 0	5. 6. 48	5. 13. 53
15	*Su.*	9. 7. 15. 40	9. 14. 13. 55	5. 16. 15	5. 13. 57
16	M.	9. 21. 9. 29	9. 28. 2. 17	5. 7. 4	4. 55. 49
17	Tu.	10. 4. 52. 3	10. 11. 38. 43	4. 40. 27	4. 21. 14
18	W.	10. 18. 22. 6	10. 25. 2. 7	3. 58. 34	3. 32. 49
19	Th.	11. 1. 38. 38	11. 8. 11. 38	3. 4. 25	2. 33. 49
20	F.	11. 14. 41. 2	11. 21. 6. 52	2. 1. 29	1. 27. 53
21	Sa.	11. 27. 29. 8	0. 3. 47. 54	0. 53. 28 S	0. 18. 42 S
22	*Su.*	0. 10. 3. 12	0. 16. 15. 15	0. 16. 0 N	0. 50. 13 N
23	M.	0. 22. 24. 8	0. 28. 30. 8	1. 23. 33	1. 55. 40
24	Tu.	1. 4. 33. 26	1. 10. 34. 26	2. 26. 14	2. 55. 0
25	W.	1. 16. 33. 22	1. 22. 30. 43	3. 21. 39	3. 45. 59
26	Th.	1. 28. 26. 50	2. 4. 22. 19	4. 7. 50	4. 26. 58
27	F.	2. 10. 17. 30	2. 16. 13. 3	4. 43. 14	4. 56. 31
28	Sa.	2. 22. 9. 27	2. 28. 7. 21	5. 6. 38	5. 13. 30
29	*Su.*	3. 4. 7. 14	3. 10. 9. 44	5. 17. 1	5. 17. 2
30	M.	3. 16. 15. 25	3. 22. 24. 52	5. 13. 33	5. 6. 25

SEPTEMBER 1782. VI.

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Passage over Merid.	☽'s Right Ascen. at Noon.	☽'s Right Asc. at Midn.	☽'s Declinat. at Noon.	☽'s Declin. at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	*Su.*	25	19. 42	85. 45	92. 38	28. 32 N	28. 39 N
2	M.	26	20. 36	99. 33	106. 29	28. 25	27. 49
3	Tu.	27	21. 29	113. 25	120. 17	26. 53	25. 35
4	W.	28	22. 20	127. 4	133. 46	23. 57	22. 0
5	Th.	29	23. 10	140. 21	146. 50	19. 45	17. 14
6	F.	30	23. 59	153. 13	159. 31	14. 29	11. 31
7	Sa.	1	☌	165. 45	171. 57	8. 23	5. 7 N
8	*Su.*	2	0. 46	178. 8	184. 21	1. 45 N	1. 38 S
9	M.	3	1. 33	190. 38	197. 0	5. 2 S	8. 24
10	Tu.	4	2. 24	203. 29	210. 9	11. 39	14. 46
11	W.	5	3. 16	217. 0	224. 3	17. 41	20. 21
12	Th.	6	4. 13	231. 20	238. 49	22. 44	24. 46
13	F.	7	5. 13	246. 30	254. 21	26. 25	27. 38
14	Sa.	8	6. 15	262. 18	270. 17	28. 24	28. 42
15	*Su.*	9	7. 17	278. 14	286. 5	28. 32	27. 54
16	M.	10	8, 17	293. 46	301. 14	26. 51	25. 24
17	Tu,	11	9. 13	308. 27	315. 24	23. 36	21. 29
18	W.	12	10. 4	322. 6	328. 34	19. 7	16. 32
19	Th,	13	10. 52	334. 47	340. 49	13. 46	10. 53
20	F.	14	11. 36	346. 41	352. 25	7. 54	4. 52 S
21	Sa.	15	12. 18	358. 3	3. 37	1. 49 S	1. 14 N
22	*Su.*	16	13. 0	9. 8	14. 39	4. 14 N	7. 10
23	M.	17	13. 42	20. 11	25. 47	10. 1	12. 45
24	Tu.	18	14. 26	31. 26	37. 12	15. 21	17. 47
25	W.	19	15. 11	43. 4	49. 4	20. 2	22. 4
26	Th.	20	15. 59	55. 12	61. 29	23. 52	25. 25
27	F.	21	16. 50	67. 54	74. 27	26. 41	27. 40
28	Sa.	22	17. 42	81. 7	87. 52	28. 20	28. 41
29	*Su.*	23	18. 35	94. 41	101. 31	28. 41	28. 21
30	M.	24	19. 28	108. 21	115. 9	27. 40	26. 38

VII. SEPTEMBER 1782.

Days of the Month.	Days of the Week.	Semid^{r}. ☽ at Noon.	Semid^{r}. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	*Su.*	14. 55	14. 59	54. 46	54. 58	5167	5152
2	M.	15. 3	15. 7	55. 12	55. 29	5133	5111
3	Tu.	15. 12	15. 17	55. 47	56. 7	5087	5062
4	W.	15. 23	15. 29	56. 27	56. 49	5036	5008
5	Th.	15. 35	15. 41	57. 11	57. 33	4980	4952
6	F.	15. 47	15. 52	57. 54	58. 14	4926	4901
7	Sa.	15. 57	16. 2	58. 33	58. 51	4877	4855
8	*Su.*	16. 6	16. 10	59. 6	59. 20	4837	4820
9	M.	16. 13	16. 15	59. 30	59. 38	4808	4798
10	Tu.	16. 17	16. 18	59. 44	59. 48	4790	4786
11	W.	16. 18	16. 17	59. 48	59. 47	4786	4787
12	Th.	16. 16	16. 15	59. 43	59. 39	4792	4797
13	F.	16. 13	16. 11	59. 32	59. 25	4805	4813
14	Sa.	16. 9	16. 6	59. 16	59. 6	4824	4837
15	*Su.*	16. 3	16. 0	58. 55	58. 43	4850	4865
16	M.	15. 57	15. 53	58. 31	58. 19	4880	4895
17	Tu.	15. 50	15. 46	58. 6	57. 52	4911	4928
18	W.	15. 42	15. 38	57. 38	57. 24	4946	4964
19	Th.	15. 34	15. 30	57. 9	56. 54	4983	5002
20	F.	15. 26	15. 21	56. 38	56. 22	5022	5042
21	Sa.	15. 17	15. 13	56. 7	55. 52	5062	5081
22	*Su.*	15. 9	15. 6	55. 37	55. 23	5100	5119
23	M.	15. 2	14. 59	55. 10	54. 58	5136	5152
24	Tu.	14. 56	14. 53	54. 47	54. 37	5166	5179
25	W.	14. 51	14. 49	54. 29	54. 24	5190	5197
26	Th.	14. 48	14. 48	54. 19	54. 17	5203	5206
27	F.	14. 48	14. 49	54. 18	54. 21	5205	5201
28	Sa.	14. 50	14. 52	54. 26	54. 34	5194	5183
29	*Su.*	14. 55	14. 59	54. 45	54. 58	5169	5152
30	M.	15. 3	15. 7	55. 13	55. 30	5132	5110

Diſtances of ☽'s Center from Sun, and from Stars eaſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	The Sun.	72. 53. 40	71. 30. 46	70. 7. 42	68. 44. 28	67. 21. 4	65. 57. 26	64. 33. 37	63. 9.35
2		61. 45. 20	60. 20. 49	58. 56. 3	57. 31. 3	56. 5. 48	54. 40. 18	53. 14. 32	51.48.29
3		50. 22. 11	48. 55. 33	47. 28. 39	46. 1. 26	44. 33. 56	43. 6. 7	41. 38. 1	40. 9.36
4		38. 40. 54							
8	Antares.					62. 12. 22	60. 25. 40	58. 38. 50	56.51.52
9		55. 4. 45	53. 17. 31	51. 30. 10	49. 42. 44	47. 55. 12	46. 7. 35	44. 19. 56	42.32.12
10		40. 44. 25	38. 56. 34	37. 8. 43	35. 20. 49	33. 32. 54			
10	α Aquilæ.					87. 13. 43	85. 44. 33	84. 15. 28	82.46.29
11		81. 17. 40	79. 48. 59	78. 20. 35	76. 52. 28	75. 24. 36	73. 57. 4	72. 29. 59	71. 3.19
12		69. 37. 6	68. 11. 23	66. 46. 16	65. 21. 45	63. 57. 50			
12	Fomal-haut.					87. 27. 36	85. 45. 48	84. 4. 8	82.22.36
13		80. 41. 12	78. 59. 57	77. 18. 55	75. 38. 3	73. 57. 25	72. 16. 58	70. 36. 46	68.56.50
14		67. 17. 8	65. 37. 42	63. 58. 36	62. 19. 49	60. 41. 22	59. 3. 16	57. 25. 34	55.48.18
15		54. 11. 27	52. 35. 1	50. 59. 9	49. 23. 50	47. 49. 5	46. 14. 59	44. 41. 36	43. 8.56
16		41. 37. 2							
16	α Arietis.	104. 7. 13	102. 25. 2	100. 43. 2	99. 1. 11	97. 19. 30	95. 37. 59	93. 56. 37	92.15.26
17		90. 34. 25	88. 53. 33	87. 12. 52	85. 32. 22	83. 52. 2	82. 11. 54	80. 31. 57	78.52.12
18		77. 12. 38	75. 33. 16	73. 54. 5	72. 15. 7	70. 36. 21	68. 57. 48	67. 19. 29	65.41.22

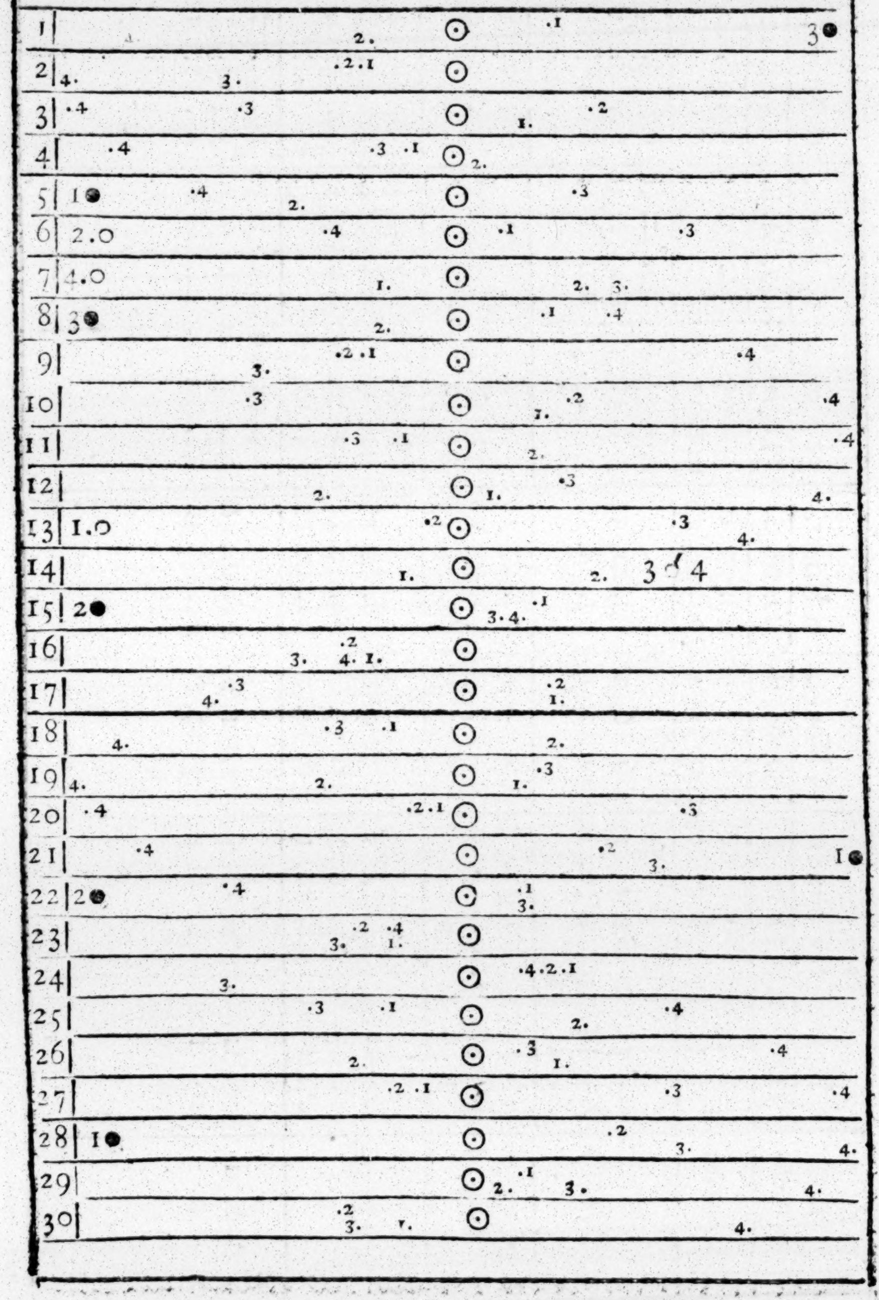
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
19	α Arietis.	64. 3. 29	62. 25. 49	60. 48. 22	59. 11. 10	57. 34. 12	55. 57. 29	54. 21. 1	52.44.48
20		51. 8. 51							
20	Aldebaran.	81. 55. 4	80. 19. 30	78. 44. 8	77. 9. 1	75. 34. 7	73. 59. 26	72. 25. 0	70.50.48
21		69. 16. 51	67. 43. 8	66. 9. 40	64. 36. 27	63. 3. 29	61. 30. 47	59. 58. 21	58.26.12
22		56. 54. 18	55. 22. 40	53. 51. 20	52. 20. 17	50. 49. 32	49. 19. 4	47. 48. 56	46.19. 7
23		44. 49. 37	43. 20. 26	41. 51. 38	40. 23. 13	38. 55. 10	37. 27. 29	36. 0. 17	34.33.34
24		33. 7. 19	31. 41. 29	30. 16. 20	28. 51. 50	27. 28. 3	26. 5. 3	24. 43. 0	23.21.53
25		22. 1. 43							
25	Pollux.	63. 28. 17	61. 58. 47	60. 29. 24	59. 0. 7	57. 30. 58	56. 1. 54	54. 32. 55	53. 4. 1
26		51. 35. 12	50. 6. 26	48. 37. 42	47. 9. 2	45. 40. 25	44. 11. 51	42. 43. 18	41.14.47
27		39. 46. 16	38. 17. 45	36. 49. 13	35. 20. 40	33. 52. 6	32. 23. 29	30. 54. 50	29.26. 8
28		27. 57. 23	26. 28. 32	24. 59. 38	23. 30. 38	22. 1. 34	20. 32. 24	19. 3. 10	17 33.49
29		16. 4. 23							
26	The Sun.					119. 29. 49	118. 8. 32	116. 47. 16	115.26. 1
27		114. 4. 46	112. 43. 31	111. 22. 14	110. 0. 56	108. 39. 37	107. 18. 15	105. 56. 50	104.35.21
28		103. 13. 49	101. 52. 11	100. 30. 28	99. 8. 38	97. 46. 43	96. 24. 40	95. 2. 29	93.40.10
29		92. 17. 43	90. 55. 6	89. 32. 18	88. 9. 19	86. 46. 10	85. 22. 48	83. 59. 14	82 35.26
30		81. 11. 26	79. 47. 10	78. 22. 39	76. 57. 52	75. 32. 50	74. 7. 31	72. 41. 55	71.16. 2
O.1		69. 49. 51							

Diſtances of ☽'s Center from Sun, and from Stars weſt of her.

Days.	Stars Names.	Noon. D. M. S.	3 Hours. D. M. S	6 Hours. D. M. S.	9 Hours. D. M. S.	12 Hours. D. M. S.	15 Hours. D. M. S.	18 Hours. D. M. S.	21 Hours. D. M. S.
1	Aldebaran.	22. 10. 50	23. 31. 43	24. 53. 40	26. 16. 32	27. 40. 20	29. 5. 2	30. 30. 26	31. 56. 34
2		33. 23. 25	34. 50. 47	36. 18. 41	37. 47. 8	39. 16. 7	40. 45. 33	42. 15. 25	43. 45. 46
3		45. 16. 34	46. 47. 47	48. 19. 25	49. 51. 29	51. 23. 57	52. 56. 48	54. 30. 4	56. 3. 43
4		57. 37. 47	59. 12. 14	60. 47. 4	62. 22. 17	63. 57. 53	65. 33. 52	67. 10. 13	68. 46. 57
5		70. 24. 2	72. 1. 29	73. 39. 18	75. 17. 27	76. 55. 58			
10	The Sun.	38. 13. 22	39. 53. 48	41. 34. 15	43. 14. 44	44. 55. 14	46. 35. 45	48. 16. 16	49. 56. 46
11		51. 37. 17	53. 17. 46	54. 58. 14	56. 38. 39	58. 19. 2	59. 59. 21	61. 39. 35	63. 19. 46
12		64. 59. 53	66. 39. 55	68. 19. 51	69. 59. 43	71. 39. 29	73. 19. 9	74. 58. 42	76. 38. 10
13		78. 17. 31	79. 56. 45	81. 35. 52	83. 14. 52	84. 53. 44	86. 32. 28	88. 11. 5	89. 49. 33
14		91. 27. 54	93. 6. 7	94. 44. 11	96. 22. 7	97. 59. 54	99. 37. 32	101. 15. 0	102. 52. 20
15		104. 29. 31	106. 6. 34	107. 43. 27	109. 20. 11	110. 56. 45	112. 33. 9	114. 9. 23	115. 45. 28
16		117. 21. 23	118. 57. 9	120. 32. 45					
14	Antares.	16. 25. 26	18. 10. 59	19. 56. 22	21. 41. 37	23. 26. 43	25. 11. 40	26. 56. 25	28 41. 7
15		30. 25. 37	32. 9. 58	33. 54. 10	35. 38. 12	37. 22. 6	39. 5. 49	40. 49. 23	42. 32. 48
16		44. 16. 3	45. 59. 8	47. 42. 3	49. 24. 49	51. 7. 24	52. 49. 4	54. 32. 3	56. 14. 8
17		57. 56. 2	59. 37. 45	61. 19. 19	63. 0. 41	64. 41. 53	66. 22. 54	68. 3. 43	69. 44. 22
18		71. 24. 50	73. 5. 7	74. 45. 12	76. 25. 6	78. 4. 49	79. 44. 19	81. 23. 38	83. 2. 45

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
19	Antares.	84. 41. 41	86. 20. 25	87. 58. 56	89. 37. 16	91. 15. 24	92. 53. 19	94. 31. 2	96. 8. 32
20		97. 45. 50	99. 22. 55	100. 59. 48	102. 36. 28	104. 12. 56			
20	α Aquilæ.					58. 42. 56	59. 55. 50	61. 9. 9	62. 22. 54
21		63. 37. 6	64. 51. 39	66. 6. 28	67. 21. 35	68. 36. 58	69. 52. 31	71. 8. 13	72. 24. 4
22		73. 40. 4	74. 56. 9	76. 12. 16	77. 28. 26	78. 44. 39	80. 0. 50	81. 17. 1	82. 33. 9
23		83. 49. 12							
23	Fomalhaut.	55. 12. 36	56. 38. 9	58. 3. 42	59. 29. 16	60. 54. 51	62. 20. 25	63. 45. 58	65. 11. 30
24		66. 37. 1	68. 2. 30	69. 27. 56	70. 53. 20	72. 18. 41	73. 43. 57	75. 9. 9	76. 34. 17
25		77. 59. 22	79. 24. 23	80. 49. 20	82. 14. 13	83. 39. 2			
25	α Arietis.					18. 47. 36	20. 9. 49	21. 32. 34	22. 55. 57
26		24. 19. 57	25. 44. 25	27. 9. 15	28. 34. 27	30. 0. 1	31. 25. 42	32. 51. 35	34. 17. 41
27		35. 43. 59	37. 10. 25	38. 37. 0	40. 3. 45	41. 30. 39	42. 57. 40	44. 24. 49	45. 52. 8
28		47. 19. 35	48. 47. 11	50. 14. 57	51. 42. 52	53. 10. 56			
28	Aldebaran.					23. 52. 18	25. 13. 36	26. 35. 38	27. 58. 28
29		29. 22. 7	30. 46. 27	32. 11. 23	33. 36. 56	35. 3. 4	36. 29. 39	37. 56. 42	39. 24. 14
30		40. 52. 14	42. 20. 38	43. 49. 27	45. 18. 42	46. 48. 21	48. 18. 24	49. 48. 51	51. 19. 41
O. 1		52. 50. 55							

Configurations of the SATELLITES of JUPITER at Half an Hour paſt 7 o' Clock in the Evening.



Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	Tu.	Remigius.
2	W.	
3	Th.	
4	F.	
5	Sa.	
6	*Su.*	*19th Sunday after Trinity.*
7	M.	[Faith.
8	Tu.	
9	W.	S. Denys.
10	Th.	Oxf. and Cam. T. begin.
11	F.	
12	Sa.	
13	*Su.*	*20th Sunday after Trinity.*
14	M.	[Tranf. of K. Edw. Conf.
15	Tu.	
16	W.	
17	Th.	Etheldred.
18	F.	*St. Luke.*
19	Sa.	
20	*Su.*	*21ſt Sunday after Trinity.*
21	M.	
22	Tu.	
23	W.	
24	Th.	
25	F.	*K. Geo.* III. *Acceſ.* 1760.
26	Sa.	*K Geo.* III. *procl.*
27	*Su.*	*22d Sunday after Trinity.*
28	M.	*St. Simon and St. Jude.*
29	Tu.	
30	W.	
31	Th.	

Phaſes of the Moon.

	D. H. M.
New Moon —	6. 13. 0
Firſt Quarter –	13. 4. 21
Full Moon —	20. 18. 17
Laſt Quarter –	28. 22. 51

Other Phenomena.

D.
1. ♀ σ ♌ diff. Lat. 21′.
4. ☽ χ ♌ 6h. 17′.
☽ σ ♌ 13h. 33′.
☽ ♀ 20h. 36′.
5. ☽ ♂ 11h. 16′.
6. ☉ eclipſed, inviſible.
8. ☽ ☿ 2h. 7′.
♀ β ♍ diff. Lat. 46′.
9. ☽ σ ♏ 23h. 49′.
10. ☽ α ♏ 3h. 2′.
♂ η ♍ diff. Lat. 23′.
11. ☽ δ ♐ 20h. 8′.
12. ☽ τ ♐ 13h. 30′.
14. ♀ η ♍ diff. Lat. 9′.
15. ☽ ε ♑ 3h. 37′.
17. ☿ 1 ad ι ♎ diff. Lat. 48′
18. ☿ ♂ diff. Lat. 35′.
19. ☽ ε ♓ 15h. 46′.
☽ ζ ♓ 20h 20′.
22. ☉ enters ♏ at 18h. 52′.
23. ☽ η Pleiadum 4h. 19′.
25. ☽ β ♉ 2h. 2′.
27. ☽ ι ♊ 7h. 5′.
28. ☽ 2 ad ψ ♋ 3h. 28′.
31. ☽ χ ♌ 16h. 28′.
☽ σ ♌ 23h. 54′.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Aſc. in Time.	Sun's Declin. South.	Equat. of Time. Sub.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	Tu.	6. 8. 23. 43	12. 30. 50,3	3.20. 1	10. 27,2	18,7
2	W.	6. 9. 22. 53	12. 34. 28,2	3.43.20	10. 45,9	18,3
3	Th.	6. 10. 22. 4	12. 38. 6,4	4. 6.37	11. 4,2	17,9
4	F.	6. 11. 21. 18	12. 41. 44,9	4.29.51	11. 22,1	17,6
5	Sa.	6. 12. 20. 34	12. 45. 23,9	4.53. 1	11. 39,7	17,2
6	*Su.*	6. 13. 19. 52	12. 49. 3,2	5.16. 8	11. 56,9	16,8
7	M.	6. 14. 19. 13	12. 52. 42,9	5.39.12	12. 13,7	16,4
8	Tu.	6. 15. 18. 35	12. 56. 23,0	6. 2.10	12. 30,1	15,9
9	W.	6. 16. 17. 59	13. 0. 3,6	6.25. 5	12. 46,0	15,5
10	Th.	6. 17. 17. 26	13. 3. 44,6	6.47.54	13. 1,5	15,1
11	F.	6. 18. 16. 54	13. 7. 26,0	7.10.37	13. 16,6	14,6
12	Sa.	6. 19. 16. 24	13. 11. 8,0	7.33.14	13. 31,2	14,1
13	*Su.*	6. 20. 15. 55	13. 14. 50,4	7.55.45	13. 45,3	13,5
14	M.	6. 21. 15. 28	13. 18. 33,4	8.18. 9	13. 58,8	13,1
15	Tu.	6. 22. 15. 3	13. 22. 16,8	8.40.26	14. 11,9	12,5
16	W.	6. 23. 14. 40	13. 26. 0,9	9. 2.35	14. 24,4	11,9
17	Th.	6. 24. 14. 18	13. 29. 45,5	9.24.37	14. 36,3	11,4
18	F.	6. 25. 13. 58	13. 33. 30,7	9.46.30	14. 47,7	10,7
19	Sa.	6. 26. 13. 40	13. 37. 16,5	10. 8.15	14. 58,4	10,1
20	*Su.*	6. 27. 13. 24	13. 41. 2,9	10.29.51	15. 8,5	9,5
21	M.	6. 28. 13. 9	13. 44. 49,9	10.51.17	15. 18,0	8,8
22	Tu.	6. 29. 12. 57	13. 48. 37,7	11.12.34	15. 26,8	8,1
23	W.	7. 0. 12. 47	13. 52. 26,1	11.33.41	15. 34,9	7,4
24	Th.	7. 1. 12. 39	13. 56. 15,2	11.54.37	15. 42,3	6,6
25	F.	7. 2. 12. 33	14. 0. 5,1	12.15.22	15. 48,9	6,0
26	Sa.	7. 3. 12. 29	14. 3. 55,6	12.35.56	15. 54,9	5,2
27	*Su.*	7. 4. 12. 27	14. 7. 47,0	12.56.18	16. 0,1	4,5
28	M.	7. 5. 12. 28	14. 11. 39,1	13.16.29	16. 4,6	3,6
29	Tu.	7. 6. 12. 31	14. 15. 32,0	13.36.27	16. 8,2	2,8
30	W.	7. 7. 12. 37	14. 19. 25,8	13.56.12	16. 11,0	2,9
31	Th.	7. 8. 12. 44	14. 23. 20,3	14.15.44	16. 13,0	

Days of the Month.	Semidiameter of the Sun.	Time of D° paſſing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Diſtance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	16. 2,8	1. 4,3	2. 27,8	9,999992	0. 6. 53
7	16. 4,5	1. 4,6	2. 28,4	9,999252	0. 6. 34
13	16. 6,1	1. 5,0	2. 28,9	9,998493	0. 6. 15
19	16. 7,8	1. 5,5	2. 29,3	9,997741	0. 5. 56
25	16. 9,4	1. 6,1	2. 29,8	9,997033	0. 5. 37

Eclipſes of the SATELLITES of JUPITER.

I. Satellite. Emerſions.		II. Satellite. Emerſions.		III. Satellite.	
Days	H. M. S.	Days	H. M. S.	Days	H. M. S.
1	23. 40. 29	3	2. 57. 20	7	2. 37. 13 I
3	18. 9. 53	6	16. 16. 8	7	5. 36. 7 E
5	12. 39. 16	10	5. 35. 1	14	6* 38. 50 I
7	7* 8. 38	13	18. 53. 44	14	9. 38. 48 E
9	1. 38. 0	17	8. 12. 22	21	10. 40. 0 I
10	20. 7. 17	20	21. 30. 58	21	13. 41. 0 E
12	14. 36. 34	24	10. 49. 24	28	14. 40. 29 I
14	9. 5. 49	28	0. 7. 44	28	17. 42. 31 E
16	3. 35. 2	31	13. 25. 56		
17	22. 4. 11			IV. Satellite.	
19	16. 33. 21				
21	11. 2. 27			2	19. 6. 59 I
23	5. 31. 33			2	21. 35. 13 E
25	0. 0. 33			19	13. 12. 49 I
26	18. 29. 33			19	15. 50. 1 E
28	12. 58. 28				
30	7. 27. 22				

Days.	Heliocentric Longitude. S. D. M.	Heliocentric Latitude. D. M.	Geocentric Longitude. S. D. M.	Geocentric Latitude. D. M.	Declination. D. M.	Paſſage over Merid. H. M.
MERCURY. Gr. Elong. 22ᵈ.						
1	8. 8. 40	2. 44 S	6. 26. 35	0. 59 S	11. 11 S	1. 6
4	8. 16. 54	3. 38	7. 0. 56	1. 20	13. 4	1. 12
7	8. 25. 11	4. 27	7. 5. 8	1. 41	14. 50	1. 16
10	9. 3. 36	5. 12	7. 9. 12	2. 0	16. 29	1. 21
13	9. 12. 15	5. 51	7. 13. 6	2. 18	17. 59	1. 25
16	9. 21. 15	6. 22	7. 16. 47	2. 33	19. 19	1. 28
19	10. 0. 42	6. 46	7. 20. 12	2. 46	20. 29	1. 30
22	10. 10. 44	6. 58	7. 23. 16	2. 55	21. 26	1. 31
25	10. 21. 30	6. 58	7. 25. 52	2. 58	22. 8	1. 31
28	11. 3. 9	6. 41	7. 27. 51	2. 55	22. 33	1. 28
31	11. 15. 52	6. 4	7. 28. 56	2. 43	22. 36	1. 21
VENUS.						
1	4. 11. 26	2. 50 N	5. 15. 2	1. 20 N	7. 8 N	22. 37
7	4. 21. 12	3. 6	5. 22. 26	1. 26	4. 20	22. 43
13	5. 0. 57	3. 17	5. 29. 53	1. 31	1. 26 N	22. 48
19	5. 10. 42	3. 23	6. 7. 21	1. 32	1. 31 S	22. 53
25	5. 20. 26	3. 22	6. 14. 50	1. 31	4. 27	22. 58
MARS.						
1	5. 17. 50	1. 36 N	5. 25. 32	1. 1 N	2. 43 N	23. 13
7	5. 20. 29	1. 34	5. 29. 24	1. 0	1. 9 N	23. 5
13	5. 23. 8	1. 31	6. 3. 16	0. 58	0. 25 S	22. 57
19	5. 25. 47	1. 28	6. 7. 9	0. 57	1. 58	22. 49
25	5. 28. 27	1. 24	6. 11. 2	0. 55	3. 32	22. 41
JUPITER.						
1	9. 3. 1	0. 8 N	8. 22. 25	0. 8 N	23. 7 S	4. 55
7	9. 3. 31	0. 7	8. 23. 15	0. 7	23. 11	4. 38
13	9. 4. 1	0. 7	8. 24. 9	0. 6	23. 14	4. 20
19	9. 4. 32	0. 6	8. 25. 7	0. 6	23. 17	4. 2
25	9. 5. 0	0. 5	8. 26. 9	0. 5	23. 20	3. 43
SATURN.						
1	9. 1. 13	0. 53 N	8. 25. 41	0. 52 N	22. 32 S	5. 10
7	9. 1. 24	0. 52	8. 26. 0	0. 51	22. 34	4. 50
13	9. 1. 35	0. 52	8. 26. 23	0. 50	22. 35	4. 29
19	9. 1. 46	0. 52	8. 26. 49	0. 49	22. 37	4. 9
25	9. 1. 56	0. 51	8. 27. 18	0. 48	22. 38	3. 48

OCTOBER 1782.

Days of the Month.	Days of the Week.	Moon's Longitude at Noon. S. D. M. S.	Moon's Longitude at Midnight. S. D. M. S.	Moon's Latitude at Noon. D. M. S.	Moon's Latitude at Midn. D. M. S.
1	Tu.	3. 28. 38. 33	4. 4. 57. 2	4. 55. 38 N	4. 41. 11 N
2	W.	4. 11. 20. 41	4. 17. 49. 55	4. 23. 2	4. 1. 17
3	Th.	4. 24. 25. 0	5. 1. 6. 10	3. 36. 2	3. 7. 29
4	F.	5. 7. 53. 26	5. 14. 46. 50	2. 35. 51	2. 1. 29
5	Sa.	5. 21. 46. 8	5. 28. 51. 1	1. 24. 49	0. 46. 22 N
6	*Su.*	6. 6. 1. 1	6. 13. 15. 32	0. 6. 45 N	0. 33. 24 S
7	M.	6. 20. 33. 48	6. 27. 55. 1	1. 13. 20 S	1. 52. 18
8	Tu.	7. 5. 18. 15	7. 12. 42. 35	2. 29. 34	3. 4. 22
9	W.	7. 20. 7. 1	7. 27. 30. 42	3. 36. 4	4. 4. 5
10	Th.	8. 4. 52. 44	8. 12. 12. 23	4. 27. 56	4. 47. 15
11	F.	8. 19. 28. 58	8. 26. 41. 57	5. 1. 48	5. 11. 26
12	Sa.	9. 3. 50. 56	9. 10. 55. 36	5. 16. 8	5. 15. 59
13	*Su.*	9. 17. 55. 43	9. 24. 51. 12	5. 11. 6	5. 1. 45
14	M.	10. 1. 42. 2	10. 8. 28. 14	4. 48. 11	4. 30. 44
15	Tu.	10. 15. 9. 57	10. 21. 47. 18	4. 9. 46	3. 45. 40
16	W.	10. 28. 20. 29	11. 4. 49. 44	3. 18. 52	2. 49. 45
17	Th.	11. 11. 15. 12	11. 17. 37. 13	2. 18. 46	1. 46. 19
18	F.	11. 23. 55. 56	0. 0. 11. 36	1. 12. 52	0. 38. 49 S
19	Sa.	0. 6. 24. 30	0. 12. 34. 46	0. 4. 34 S	0. 29. 28 N
20	*Su.*	0. 18. 42. 36	0. 24. 48. 15	1. 2. 56 N	1. 35. 25
21	M.	1. 0. 51. 49	1. 6. 53. 33	2. 6. 38	2. 36. 14
22	Tu.	1. 12. 53. 35	1. 18. 52. 12	3. 3. 58	3. 29. 26
23	W.	1. 24. 49. 32	2. 0. 45. 56	3. 52. 36	4. 13. 10
24	Th.	2. 6. 41. 33	2. 12. 36. 51	4. 30. 56	4. 45. 45
25	F.	2. 18. 32. 6	2. 24. 27. 40	4. 57. 31	5. 6. 6
26	Sa.	3. 0. 23. 59	3. 6. 21. 34	5. 11. 25	5. 13. 24
27	*Su.*	3. 12. 20. 47	3. 18. 22. 15	5. 11. 58	5. 7. 8
28	M.	3. 24. 26. 29	4. 0. 34. 2	4. 58. 49	4. 47. 2
29	Tu.	4. 6. 45. 23	4. 13. 1. 13	4. 31. 48	4. 13. 10
30	W.	4. 19. 22. 0	4. 25. 48. 15	3. 51. 11	3. 26. 1
31	Th.	5. 2. 20. 28	5. 8. 59. 3	2. 57. 46	2. 26. 41

OCTOBER 1782.

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Paſsage over Merid.	☽'s Right Aſcen. at Noon.	☽'s Right Aſc. at Midn.	☽'s Declination at Noon.	☽'s Declination at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	Tu.	25	20. 18	121. 54	128. 32	25. 17 N	23. 36 N
2	W.	26	21. 8	135. 6	141. 35	21. 37	19. 20
3	Th.	27	21. 57	147. 58	154. 17	16. 47	14. 1
4	F.	28	22. 44	160. 33	166. 47	11. 2	7. 52
5	Sa.	29	23. 32	173. 0	179. 15	4. 34 N	1. 10 N
6	*Su.*	1	☌	185. 34	191. 59	2. 17 S	5. 45 S
7	M.	2	0. 22	198. 31	205. 14	9. 10	12. 30
8	Tu.	3	1. 15	212. 8	219. 16	15. 39	18. 36
9	W.	4	2. 12	226. 38	234. 13	21. 16	23. 35
10	Th.	5	3. 13	242. 2	250. 0	25. 32	27. 2
11	F.	6	4. 15	258. 6	266. 15	28. 4	28. 37
12	Sa.	7	5. 19	274. 22	282. 23	28. 41	28. 16
13	*Su.*	8	6. 21	290. 12	297. 48	27. 24	26. 8
14	M.	9	7. 18	305. 8	312. 10	24. 29	22. 31
15	Tu.	10	8. 10	318. 56	325. 26	20. 17	17. 49
16	W.	11	8. 57	331. 42	337. 44	15. 10	12. 23
17	Th.	12	9. 41	343. 36	349. 19	9. 29	6. 32
18	F.	13	10. 24	354. 55	0. 26	3. 32 S	0. 31 S
19	Sa.	14	11. 5	5. 55	11. 23	2. 29 N	5. 26 N
20	*Su.*	15	11. 46	16. 52	22. 23	8. 19	11. 6
21	M.	16	12. 29	27. 58	33. 39	13. 46	16. 17
22	Tu.	17	13. 13	39. 27	45. 23	18. 39	20. 49
23	W.	18	14. 0	51. 27	57. 39	22. 45	24. 28
24	Th.	19	14. 50	64. 0	70. 28	25. 54	27. 4
25	F.	20	15. 41	77. 3	83. 43	27. 55	28. 27
26	Sa.	21	16. 33	90. 27	97. 13	28. 40	28. 32
27	*Su.*	22	17. 24	103. 58	110. 41	28. 4	27. 17
28	M.	23	18. 14	117. 20	123. 55	26. 9	24. 43
29	Tu.	24	19. 3	130. 24	136. 47	22. 59	20. 58
30	W.	25	19. 50	143. 4	149. 16	18. 41	16. 10
31	Th.	26	20. 37	155. 25	161. 31	13. 25	10. 29

OCTOBER 1782.

Days of the Month.	Days of the Week.	Semid^{r}. ☽ at Noon.	Semid^{r}. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	Tu.	15. 13	15. 19	55. 51	56. 13	5082	5054
2	W.	15. 26	15. 32	56. 37	57. 2	5023	4991
3	Th.	15. 40	15. 47	57. 28	57. 54	4958	4926
4	F.	15. 54	16. 1	58. 21	58. 46	4892	4861
5	Sa.	16. 7	16. 14	59. 10	59. 33	4832	4804
6	*Su.*	16. 19	16. 23	59. 52	60. 9	4781	4760
7	M.	16. 27	16. 30	60. 22	60. 32	4745	4733
8	Tu.	16. 31	16. 32	60. 38	60. 40	4725	4723
9	W.	16. 31	16. 30	60. 38	60. 33	4725	4732
10	Th.	16. 28	16. 25	60. 25	60. 13	4741	4755
11	F.	16. 21	16. 17	60. 0	59. 45	4771	4789
12	Sa.	16. 12	16. 7	59. 28	59. 10	4810	4832
13	*Su.*	16. 2	15. 57	58. 51	58. 32	4855	4878
14	M.	15. 52	15. 47	58. 13	57. 54	4902	4926
15	Tu.	15. 41	15. 36	57. 35	57. 17	4950	4972
16	W.	15. 32	15. 27	56. 59	56. 42	4995	5017
17	Th.	15. 22	15. 18	56. 26	56. 10	5037	5058
18	F.	15. 14	15. 11	55. 55	55. 42	5077	5094
19	Sa.	15. 7	15. 3	55. 29	55. 16	5111	5128
20	*Su.*	15. 0	14. 57	55. 4	54. 53	5144	5158
21	M.	14. 55	14. 52	54. 44	54. 35	5170	5182
22	Tu.	14. 50	14. 49	54. 27	54. 21	5193	5201
23	W.	14. 47	14. 46	54. 16	54. 12	5207	5213
24	Th.	14. 46	14. 46	54. 10	54. 10	5215	5215
25	F.	14. 46	14. 47	54. 11	54. 15	5214	5209
26	Sa.	14. 48	14. 51	54. 20	54. 29	5202	5190
27	*Su.*	14. 54	14. 57	54. 39	54. 51	5177	5161
28	M.	15. 1	15. 6	55. 7	55. 24	5140	5118
29	Tu.	15. 11	15. 17	55. 44	56. 6	5091	5063
30	W.	15. 24	15. 31	56. 31	56. 57	5031	4998
31	Th.	15. 38	15. 46	57. 24	57. 53	4964	4927

Diſtances of ☽'s Center from Sun, and from Stars eaſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S	D. M. S.	D. M. S.	D.M.S.
1	The Sun.	69. 49. 51	68. 23. 21	66. 56. 31	65. 29. 22	64. 1. 53	62. 34. 4	61. 5. 53	59.37.22
2		58. 8. 29	56. 39. 13	55. 9. 34	53. 39. 33	52. 9. 9	50. 38. 21	49. 7. 10	47.35.35
3		46. 3. 37	44. 31. 14	42. 58. 27	41. 25. 15	39. 51. 39			
8	α Aquilæ.	85. 28. 53	83. 57. 3	82. 25. 19	80. 53. 44	79. 22. 19	77. 51. 8	76. 20. 16	74.49.46
9		73. 19. 35	71. 49. 50	70. 20. 37	68. 51. 57	67. 23. 48	65. 56. 22	64. 29. 40	63. 3.45
10		61. 38. 35							
10	Fomal-haut.	84. 35. 53	82. 51. 20	81. 7. 0	79. 22. 55	77. 39. 6	75. 55. 32	74. 12. 18	72.29.22
11		70. 46. 46	69. 4. 30	67. 22. 39	65. 41. 11	64. 0. 7	62. 19. 29	60. 39. 19	58.59.39
12		57. 20. 28	55. 41. 47	54. 3. 43	52. 26. 15	50. 49. 24	49. 13. 11	47. 37. 44	46. 3. 4
13		44. 29. 10	42. 56. 10	41. 24. 7	39. 53. 3	38. 23. 0			
13	α Arietis.					100. 28. 27	98. 46. 33	97. 4. 55	95.23.33
14		93. 42. 27	92. 1. 36	90. 21. 2	88. 40. 43	87. 0. 40	85. 20. 53	83. 41. 21	82. 2. 4
15		80. 23. 3	78. 44. 17	77. 5. 45	75. 27. 29	73. 49. 28	72. 11. 42	70. 34. 11	68.56.56
16		67. 19. 55	65. 43. 8	64. 6. 36	62. 30. 19	60. 54. 16	59. 18. 29	57. 42. 56	56. 7.39
17		54. 32. 36	52. 57. 47	51. 23. 13	49. 48. 55	48. 14. 51	46. 41. 4	45. 7. 32	43.34.18
18		42. 1. 19							

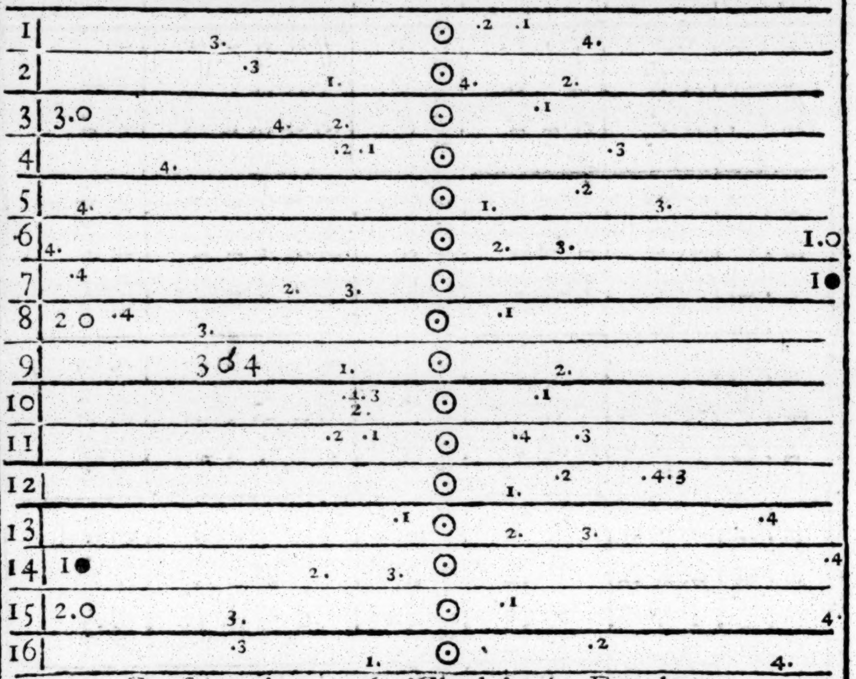
Days.	Stars Names.	Noon. D. M. S.	3 Hours. D. M. S.	6 Hours. D M. S.	9 Hours. D. M. S.	12 Hours D. M. S.	15 Hours. D. M. S.	18 Hours. D. M. S.	21 Hours. D.M.S.
18	Aldebaran.	72. 47. 25	71. 14. 28	69. 41. 42	68. 9. 9	66. 36. 48	65. 4. 39	63. 32. 43	62. 1. 0
19		60. 29. 29	58. 58. 11	57. 27. 7	55. 56. 16	54. 25. 39	52. 55. 16	51. 25. 8	49.55.14
20		48. 25. 36	46. 56. 12	45. 27. 5	43. 58. 15	42. 29. 43	41. 1. 28	39. 33. 35	38. 6. 3
21		36. 38. 53	35. 12. 4	33. 45. 43	32. 19. 53	30. 54. 32	29. 29. 48	28. 5. 41	26.42.15
22		25. 19. 31							
22	Pollux.	67. 8. 35	65. 38. 44	64. 8. 59	62. 39. 21	61. 9. 49	59. 40. 23	58. 11. 3	56.41.48
23		55. 12. 39	53. 43. 34	52. 14. 33	50. 45. 37	49. 16. 46	47. 47. 59	46. 19. 16	44.50.36
24		43. 21. 59	41. 53. 25	40. 24. 52	38. 56. 22	37. 27. 52			
24	Regulus.					74. 12. 47	72. 44. 22	71. 15. 57	69.47.33
25		68. 19. 9	66. 50. 43	65. 22. 17	63. 53. 49	62. 25. 21	60. 56. 51	59. 28. 19	57.59.43
26		56. 31. 5	55. 2. 21	53. 33. 33	52. 4. 39	50. 35. 41	49. 6. 37	47. 37. 27	46. 8.10
27		44. 38. 47	43. 9. 15	41. 39. 35	40. 9. 45	38. 39. 48	37. 9. 40	35. 39. 22	34. 8.54
28		32. 38. 16	31. 7. 25	29. 36. 24	28. 5. 11	26. 33. 48	25. 2. 13	23. 30. 29	21.58.32
29		20. 26. 25							
26	The Sun.	122. 39. 25	121. 18. 3	119. 56. 37	118. 35. 6	117. 13. 31	115. 51. 51	114. 30. 3	113. 8. 5
27		111. 45. 59	110. 23. 46	109. 1. 24	107. 38. 52	106. 16. 11	104. 53. 19	103. 30. 14	102. 6.58
28		100. 43. 30	99. 19. 49	97. 55. 54	96. 31. 45	95. 7. 22	93. 42. 45	92. 17. 51	90.52.41
29		89. 27. 14	88. 1. 29	86. 35. 25	85. 9. 2	83. 42. 21	82. 15. 21	80. 48. 0	79.20.19
30		77. 52. 17	76. 23. 53	74. 55. 6	73. 25. 58	71. 56. 26	70. 26. 30	68. 56. 11	67.25.27
31		65. 54. 20	64. 22. 46	62. 50. 48	61. 18. 23	59. 45. 34	58. 12. 18	56. 38. 37	55. 4.29
N. 1		53. 29. 55							

Diſtances of ☽'s Center from Sun, and from Stars weſt of her.

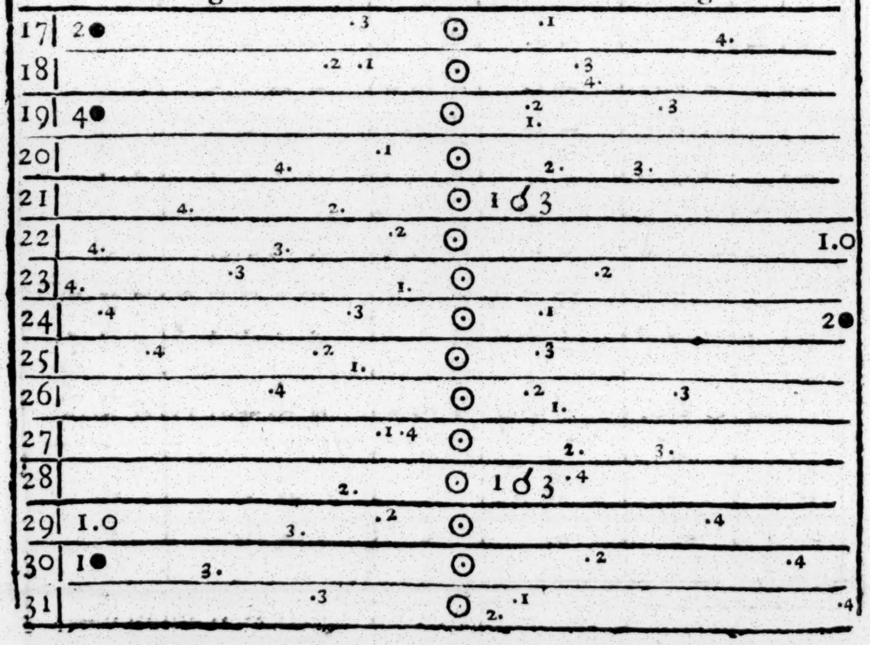
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Aldebaran.	52. 50. 53	54. 22. 32	55. 54. 35	57. 27. 1	58. 59. 51	60. 33. 5	62. 6. 42	63.40.44
2		65. 15. 11	66. 50. 3	68. 25. 19	70. 1. 0	71. 37. 5	73. 13. 35	74. 50. 30	76.27.50
3		78. 5. 35							
3	Pollux.	34. 11. 8	35. 50. 47	37. 30. 51	39. 11. 20	40. 52. 14	42. 33. 33	44. 15. 16	45.57.24
4		47. 39. 56	49. 22. 54	51. 6. 15	52. 50. 1	54. 34. 11	56. 18. 44	58. 3. 40	59.49. 0
5		61. 34. 42							
9	The Sun.					40. 53. 2	42. 36. 13	44. 19. 15	46. 2. 7
10		47. 44. 48	49. 27. 20	51. 9. 40	52. 51. 49	54. 33. 47	56. 15. 30	57. 57. 0	59.38.17
11		61. 19. 20	63. 0. 8	64. 40. 40	66. 20. 58	68. 1. 1	69. 40. 48	71. 20. 18	72.59.33
12		74. 38. 32	76. 17. 14	77. 55. 40	79. 33. 50	81. 11. 43	82. 49. 18	84. 26. 36	86. 3.37
13		87. 40. 22	89. 16. 50	90. 53. 1	92. 28. 56	94. 4. 34	95. 39. 56	97. 15. 0	98.49.49
14		100. 24. 21	101. 58. 36	103. 32. 36	105. 6. 19	106. 39. 47	108. 12. 59	109. 45. 56	111.18.38
15		112. 51. 4	114. 23. 15	115. 55. 12	117. 26. 53	118. 58. 21	120. 29. 35		
13	Antares.	41. 3. 4	42. 46. 58	44. 30. 35	46. 13. 56	47. 57. 0	49. 39. 47	51. 22. 19	53. 4.34
14		54. 46. 33	56. 28. 15	58. 9. 41	59. 50. 52	61. 31. 47	63. 12. 26	64. 52. 51	66.33. 0
15		68. 12. 54	69. 52. 32	71. 31. 56	73. 11. 6	74. 50. 1	76. 28. 42	78. 7. 9	79.45.22
16		81. 23. 22	83. 1. 9	84. 38. 42	86. 16. 2	87. 53. 9	89. 30. 1	91. 6. 42	92.43.10
17		94. 19. 26	95. 55. 31	97. 31. 23	99. 7. 6	100. 42. 37	102. 17. 56	103. 53. 3	105.27.58
18		107. 2. 41							

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
18	α Aquilæ	60. 51. 57	62. 4. 40	63. 17. 44	64. 31. 11	65. 45. 2	66. 59. 10	68. 13. 33	69.28.12
19		70. 43. 5	71. 58. 8	73. 13. 18	74. 28. 37	75. 44. 4	76. 59. 36	78. 15. 10	79.30.48
20		80. 46. 29	82. 2. 10	83. 17. 50	84. 33. 29	85. 49. 6			
20	α Pegaſi.					38. 1. 38	39. 16. 51	40. 32. 42	41.49.17
21		43. 6. 37	44. 24. 31	45. 42. 55	47. 1. 48	48. 21. 10	49. 40. 51	51. 0. 50	52.21. 8
22		53. 41. 45	55. 2. 35	56. 23. 37	57. 44. 50	59. 6. 16	60. 27. 52	61. 49. 32	63.11.18
23		64. 33. 12							
23	α Arietis.	20. 56. 18	22. 19. 49	23. 43. 43	25. 8. 3	26. 32. 50	27. 57. 57	29. 23. 20	30.49. 0
24		32. 14. 55	33. 40. 58	35. 7. 10	36. 33. 32	38. 0. 3	39. 26. 39	40. 53. 21	42.20.10
25		43. 47. 5	45. 14. 6	46. 41. 11	48. 8. 21	49. 35. 36			
25	Aldebaran.					20. 36. 13	21. 54. 11	23. 13. 18	24.33.26
26		25. 54. 25	27. 16. 19	28. 38. 55	30. 2. 12	31. 26. 10	32. 50. 31	34. 15. 20	35.40.37
27		37. 6. 22	38. 32. 28	39. 58. 55	41. 25. 46	42. 52. 58	44. 20. 29	45. 48. 20	47.16.31
28		48. 45. 2	50. 13. 52	51. 43. 2	53. 12. 31	54. 42. 20	56. 12. 28	57. 42. 55	59.13.44
29		60. 44. 52	62. 16. 22	63. 48. 12	65. 20. 25	66. 52. 58	68. 25. 53	69. 59. 11	71.32.50
30		73. 6. 52							
30	Pollux.	29. 8. 51	30. 44. 42	32. 20. 57	33. 57. 35	35. 34. 37	37. 12. 3	38. 49. 54	40.28.10
31		42. 6. 51	43. 45. 57	45. 25. 29	47. 5. 28	48. 45. 52	50. 26. 44	52. 8. 2	53.49.49
N.1		55. 32. 3							

Configurations of the SATELLITES of JUPITER at Half an Hour paſt 6 o'Clock in the Evening.



Configurations at 6 o'Clock in the Evening.



I. NOVEMBER 1782.

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.
1	F.	*All Saints.*
2	Sa.	*Pr. Edward born.*
3	*Su.*	*23d S. aft. Tr. Prs. Soph. b.*
4	M.	[On mor. of All Souls, 1 r.
5	Tu.	*Powder-Plot, 1605.*
6	W.	Leonard. M. T. begins.
7	Th.	*Duke of Cumberland born.*
8	F.	*Prs. Aug. Sophia born.*
9	Sa.	
10	*Su.*	*24th Sunday after Trinity.*
11	M.	St. Martin.
12	Tu.	On mor. of S. Mart. 2 ret.
13	W.	Britius. [Cam. T. div. m.
14	Th.	
15	F.	Machutus.
16	Sa.	
		[Lincoln.
17	*Su.*	25 *Su. aft. Tr.* Hu. Bp. of
18	M.	In 8 days of St. Mart. 3
19	Tu.	[ret.
20	W.	Edmund K. and Mart.
21	Th.	
22	F.	Cecilia.
23	Sa.	St. Clement.
24	*Su.*	*26th Sunday after Trinity.*
25	M.	*D. of Gl. b.* Cath. In 15
26	Tu.	[days of St. Mart. 4 ret.
27	W.	
28	Th.	Michaelmas Term ends.
29	F.	
30	Sa.	*St. Andrew.*

Phases of the Moon.

	D. H. M.
New Moon - - -	4. 23. 15
First Quarter - -	11. 14. 20
Full Moon - - -	19. 12. 34
Last Quarter - - -	27. 14. 57

Other Phenomena.

D.
1. ☾ β ♍ 14^{h}. 31′.
2. ☾ η ♍ 3^{h}. 44′.
3. ☾ α ♍ 11^{h}. 19′.
6. ♂ ♃ ♄ diff. Lat. 44′.
8. ☾ δ ♐ 4^{h}. 6′.
☾ τ ♐ 20^{h}. 53′.
9. ♀ λ ♍ diff. Lat. 46′.
11. ☾ ϑ ♑ 9^{h}. 29′.
12. ☿ transits ☉ Ing. 2^{h}. 51′. ☿ 15′ N. Egr. 4^{h}. 15′. ☿ 16′ N.
15. ♀ α ♎ diff. Lat. 45′.
☾ ε ♓ 21^{h}. 43′.
16. ☾ ζ ♓ 2^{h}. 20′.
19. ☾ η Pleiadum 10^{h}. 44′.
21. ☿ Stationary.
☾ β ♉ 8^{h}. 24′.
☉ enters ♐ at 15^{h}. 3′
23. ☾ ι ♊ 13^{h}. 29′.
24. ☾ 2 ad ψ ♋ 10^{h}. 2′.
25. ☾ γ ♋ 2^{h}. 25′.
28. ☾ χ ♌ 0^{h}. 58′.
☾ σ ♌ 8^{h}. 36′.
☾ β ♍ 23^{h}. 45′.
29. ♂ λ ♍ diff. Lat. 11′.
☾ η ♍ 13^{h}. 24′.
30. ☾ α ♍ Im. 21^{h} 1′½. 7′½ N. of ☽'s cent Em 21^{h}. 55′. * 13′ North.

NOVEMBER 1782. II.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Afc. in Time.	Sun's Declin. South.	Equat. of Time Sub.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	F.	7. 9. 12. 54	14. 27. 15,6	14. 35. 3	16.14,1	0,4
2	Sa.	7. 10. 13. 7	14. 31. 11,9	14. 54. 8	16.14,5	0,4
3	*Su.*	7. 11. 13. 21	14. 35. 8,9	15. 12. 57	16.14,1	1,3
4	M.	7. 12. 13. 36	14. 39. 6,7	15. 31. 31	16.12,8	2,0
5	Tu.	7. 13. 13. 53	14. 43. 5,3	15. 49. 50	16.10,8	2,9
6	W.	7. 14. 14. 13	14. 47. 4,8	16. 7. 54	16. 7,9	3,8
7	Th.	7. 15. 14. 35	14. 51. 5,2	16. 25. 41	16. 4,1	4,6
8	F.	7. 16. 14. 58	14. 55. 6,4	16. 43. 11	15.59,5	5,5
9	Sa.	7. 17. 15. 22	14. 59. 8,3	17. 0. 25	15.54,0	6,2
10	*Su.*	7. 18. 15. 47	15. 3. 11,1	17. 17. 21	15.47,8	7,1
11	M.	7. 19. 16. 14	15. 7. 14,7	17. 33. 59	15.40,7	7,9
12	Tu.	7. 20. 16. 42	15. 11. 19,2	17. 50. 18	15.32,8	8,7
13	W.	7. 21. 17. 12	15. 15. 24,6	18. 6. 19	15.24,1	9,6
14	Th.	7. 22. 17. 43	15. 19. 30,7	18. 22. 1	15.14,5	10,4
15	F.	7. 23. 18. 15	15. 23. 37,7	18. 37. 23	15. 4,1	11,2
16	Sa.	7. 24. 18. 49	15. 27. 45,5	18. 52. 26	14.52,9	12,0
17	*Su.*	7. 25. 19. 24	15. 31. 54,1	19. 7. 8	14.40,9	12,8
18	M.	7. 26. 20. 0	15. 36. 3,5	19. 21. 30	14.28,1	13,7
19	Tu.	7. 27. 20. 38	15. 40. 13,8	19. 35. 30	14.14,4	14,5
20	W.	7. 28. 21. 17	15. 44. 24,9	19. 49. 9	13.59,9	15,3
21	Th.	7. 29. 21. 57	15. 48. 36,8	20. 2. 27	13.44,6	16,1
22	F.	8. 0. 22. 39	15. 52. 49,5	20. 15. 22	13.28,5	16,9
23	Sa.	8. 1. 23. 22	15. 57. 3,0	20. 27. 55	13.11,6	17,6
24	*Su.*	8. 2. 24. 7	16. 1. 17,2	20. 40. 5	12.54,0	18,4
25	M.	8. 3. 24. 53	16. 5. 32,2	20. 51. 53	12.35,6	19,2
26	Tu.	8. 4. 25. 41	16. 9. 48,0	21. 3. 17	12.16,4	20,0
27	W.	8. 5. 26. 31	16. 14. 4,6	21. 14. 17	11.56,4	20,7
28	Th.	8. 6. 27. 22	16. 18. 21,9	21. 24. 52	11.35,7	21,4
29	F.	8. 7. 28. 15	16. 22. 39,9	21. 35. 4	11.14,3	22,1
30	Sa.	8. 8. 29. 9	16. 26. 58,6	21. 44. 51	10.52,2	22,8

Days.	Semidiameter of the Sun.	Time of D° paſſing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Diſtance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	16. 11,1	1. 6,9	2. 30,4	9,996266	0. 5. 14
7	16. 12,6	1. 7,6	2. 30,8	9,995630	0. 4. 55
13	16. 13,9	1. 8,3	2. 31,2	9,995023	0. 4. 36
19	16. 15,1	1. 9,0	2. 31,7	9,994469	0. 4. 17
25	16. 16,2	1. 9,6	2. 32,0	9,994000	0. 3. 58

ECLIPSES of the SATELLITES of JUPITER.

I. Satellite. Emerſions.

Days	H. M. S.
1	1. 56. 15
2	20. 25. 3
4	14. 53. 40
6	9. 22. 30
8	3. 51. 8
9	22. 19. 43
11	16. 48. 15
13	11. 16. 45
15	5. 45. 12
17	0. 13. 36
18	18. 41. 57
20	13. 10. 15
22	7. 38. 29
24	2. 6. 41
25	20. 34. 50
27	15. 2. 56
29	9. 31. 0

II. Satellite. Emerſions.

Days	H. M. S.
4	2. 43. 59
7	16. 1. 52
11	5. 19. 36
14	18. 37. 11
18	7. 54. 38
21	21. 11. 56
25	10. 29. 7
28	23. 46. 11

III. Satellite.

Days	H. M. S.	
4	18. 40. 20	I
4	21. 43. 19	E
11	22. 39. 23	I
12	1. 43. 22	E
19	2. 37. 39	I
19	5. 42. 36	E
26	6. 35. 8	I
26	9. 41. 4	E

IV. Satellite.

5	7. 15. 44	I.
5	10. 1. 31	E.
22	1. 14. 37	I.
22	4. 8. 56	E.

NOVEMBER 1782. IV.

Days	Heliocentric Longitude. S. D. M.	Heliocentric Latitude. D. M.	Geocentric Longitude. S. D. M.	Geocentric Latitude. D. M.	Declination. D. M.	Paſſage over Merid. H. M.
Inf. ☌ 12^{d}. 4^{h}. MERCURY. Gr. Elong. 30^{d}.						
1	11. 20. 22	5. 46 S	7. 29. 3	2. 36 S	22. 31 S	1. 18
4	0. 4. 44	4. 37	7. 28. 31	2. 8	21. 56	1. 4
7	0. 20. 25	3. 1	7. 26. 36	1. 25	20. 47	0. 45
10	1. 7. 27	1. 1 S	7. 23. 19	0. 29 S	19. 5	0. 20
13	1. 25. 36	1. 12 N	7. 19. 19	0. 33 N	17. 3	23. 44
16	2. 14. 25	3. 22	7. 15. 44	1. 28	15. 10	23. 20
9	3. 3. 18	5. 11	7. 13. 30	2. 7	13. 54	23. 1
22	3. 21. 36	6. 24	7. 12. 59	2. 28	13. 24	22. 48
25	4. 8. 47	6. 57	7. 14. 1	2. 33	13. 38	22. 41
28	4. 24. 36	6. 55	7. 16. 15	2. 27	14. 22	22. 38
30	5. 4. 20	6. 38	7. 18. 12	2. 19	15. 3	22. 38
VENUS.						
1	6. 1. 47	3. 14 N	6. 23. 35	1. 27 N	7. 49 S	23. 2
7	6. 11. 29	3. 2	7. 1. 6	1. 20	10. 37	23. 7
13	6. 21. 9	2. 44	7. 8. 38	1. 11	13. 16	23. 12
19	7. 0. 48	2. 21	7. 16. 10	1. 1	15. 43	23. 16
25	7. 10. 26	1. 55	7. 23. 43	0. 49	17. 55	23. 21
MARS.						
1	6. 1. 35	1. 20 N	6. 15. 35	0. 53 N	5. 20 S	22. 30
7	6. 4. 17	1. 17	6. 19. 30	0. 51	6. 51	22. 21
13	6. 7. 0	1. 13	6. 23. 25	0. 49	8. 21	22. 10
19	6. 9. 43	1. 9	6. 27. 20	0. 47	9. 49	22. 1
25	6. 12. 27	1. 4	7. 1. 17	0. 44	11. 15	21. 51
JUPITER.						
1	9. 5. 32	0. 5 N	8. 27. 23	0. 4 N	23. 22 S	3. 21
7	9. 6. 2	0. 4	8. 28. 33	0. 3	23. 24	3. 2
13	9. 6. 32	0. 3	8. 29. 45	0. 3	23. 25	2. 43
19	9. 7. 2	0. 3	9. 1. 0	0. 2	23. 25	2. 24
25	9. 7. 31	0. 2	9. 2. 17	0. 2	23. 25	2. 4
SATURN.						
1	9. 2. 9	0. 51 N	8. 27. 55	0. 48 N	22. 39 S	3. 23
7	9. 2. 20	0. 50	8. 28. 28	0. 47	22. 40	3. 2
13	9. 2. 31	0. 50	8. 29. 4	0. 46	22. 41	2. 40
19	9. 2. 41	0. 49	8. 29. 41	0. 45	22. 42	2. 18
25	9. 2. 52	0. 49	9. 0. 20	0. 45	22. 43	1. 56

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D.M.S.
1	F.	5. 15. 44. 21	5. 22. 36. 36	1. 53. 3 N	1.17.15 N
2	Sa.	5. 29. 35. 50	6. 6. 41. 58	0. 39. 41 N	0. 0.57 N
3	*Su.*	6. 13. 54. 45	6. 21. 13. 46	0. 38. 24 S	1.17.37 S
4	M.	6. 28. 38. 15	7. 6. 7. 26	1. 55. 57	2.32.40
5	Tu.	7. 13. 40. 10	7. 21. 15. 19	3. 6. 56	3.38. 7
6	W.	7. 28. 51. 31	8. 6. 27. 32	4. 5. 27	4.28.24
7	Th.	8. 14. 1. 58	8. 21. 33. 39	4. 46. 32	4.59.34
8	F.	8. 29. 1. 27	9. 6. 24. 29	5. 7. 23	5.10. 0
9	Sa.	9. 13. 41. 59	9. 20. 53. 29	5. 7. 33	5. 0.14
10	*Su.*	9. 27. 58. 34	10. 4. 57. 7	4. 48. 24	4.32.28
11	M.	10. 11. 49. 9	10. 18. 34. 53	4. 12. 48	3.49.54
12	Tu.	10. 25. 14. 24	11. 1. 48. 12	3. 24. 12	2.56.10
13	W.	11. 8. 16. 35	11. 14. 40. 4	2. 26. 14	1.54.50
14	Th.	11. 20. 59. 2	11. 27. 14. 2	1. 22. 24	0.49.20 S
15	F.	0. 3. 25. 33	0. 9. 33. 57	0. 16. 0 S	0.17.11 N
16	S.	0. 15. 39. 46	0. 21. 43. 20	0. 49. 54 N	1.21.50
17	*Su.*	0. 27. 45. 1	1. 3. 45. 11	1. 52. 33	2.21.53
18	M.	1. 9. 44. 3	1. 15. 41. 56	2. 49. 33	3.15.15
19	Tu.	1. 21. 39. 2	1. 27. 35. 34	3. 38. 40	3.59.38
20	W.	2. 3. 31. 42	2. 9. 27. 36	4. 17. 56	4.33.25
21	Th.	2. 15. 23. 28	2. 21. 19. 30	4. 45. 54	4.55.18
22	F.	2. 27. 15. 52	3. 3. 12. 53	5. 1. 29	5. 4.25
23	Sa.	3. 9. 10. 38	3. 15. 9. 35	5. 4. 1	5. 0.18
24	*Su.*	3. 21. 10. 0	3. 27. 12. 16	4. 53. 15	4.42.53
25	M.	4. 3. 16. 47	4. 9. 24. 2	4. 29. 14	4.12.31
26	Tu.	4. 15. 34. 26	4. 21. 48. 34	3. 52. 27	3.29.36
27	W.	4. 28. 6. 52	5. 4. 29. 58	3. 3. 57	2.35.41
28	Th.	5. 10. 58. 17	5. 17. 32. 28	2. 5. 0	1.32.15
29	F.	5. 24. 12. 51	6. 0. 59. 56	0. 57. 41 N	0.21.46 N
30	Sa.	6. 7. 54. 0	6. 14. 55. 6	0. 15. 4 S	0.52.15 S

NOVEMBER 1782. VI.

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Paſsage over Merid.	☽'s Right Aſcenſ. at Noon.	☽'s Right Aſc. at Midn.	☽'s Declination at Noon.	☽'s Declination at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	F.	27	21. 23	167. 37	173. 44	7. 18 N	4. 7 N
2	Sa.	28	22. 12	179. 54	186. 9	0. 46 N	2. 39 S
3	*Su.*	29	23. 3	192. 33	199. 7	6. 5 S	9. 29
4	M.	30	23. 58	205. 54	212. 55	12. 49	15. 59
5	Tu.	1	☌	220. 13	227. 48	18. 56	21. 36
6	W.	2	0. 58	235. 39	243. 45	23. 55	25. 49
7	Th.	3	2. 2	252. 2	260. 27	27. 15	28. 11
8	F.	4	3. 7	268. 54	277. 16	28. 35	28. 28
9	Sa.	5	4. 12	285. 28	293. 27	27. 51	26. 47
10	*Su.*	6	5. 12	301. 8	308. 30	25. 18	23. 27
11	M.	7	6. 7	315. 33	322. 17	21. 19	18. 55
12	Tu.	8	6. 56	328. 42	334. 53	16. 20	13. 35
13	W.	9	7. 41	340. 51	346. 38	10. 44	7. 49
14	Th.	10	8. 23	352. 16	357. 48	4. 50 S	1. 51 S
15	F.	11	9. 4	3. 15	8. 40	1. 7 N	4. 3 N
16	Sa.	12	9. 45	14. 6	19. 33	6. 56	9. 44
17	*Su.*	13	10. 26	25. 4	30. 40	12. 26	15. 0
18	M.	14	11. 8	36. 23	42. 13	17. 26	19. 40
19	Tu.	15	11. 55	48. 12	54. 20	21. 43	23. 32
20	W.	16	12. 43	60. 36	67. 1	25. 6	26. 24
21	Th.	17	13. 33	73. 33	80. 12	27. 24	28. 6
22	F.	18	14. 25	86. 54	93. 39	28. 28	28. 30
23	Sa.	19	15. 15	100. 23	107. 6	28. 12	27. 35
24	*Su.*	20	16. 5	113. 44	120. 17	26. 38	25. 22
25	M.	21	16. 53	126. 43	133. 3	23. 49	21. 59
26	Tu.	22	17. 40	139. 16	145. 22	19. 53	17. 33
27	W.	23	18. 24	151. 23	157. 20	15. 1	12. 17
28	Th.	24	19. 9	163. 15	169. 9	9. 23	6. 21 N
29	F.	25	19. 54	175. 4	181. 4	3. 11 N	0. 4 S
30	Sa.	26	20. 42	187. 9	193. 24	3. 22 S	6. 41

VII. NOVEMBER 1782.

Days of the Month.	Days of the Week.	Semid^{r}. ☽ at Noon.	Semid^{r}. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	F.	15. 55	16. 3	58. 23	58. 51	4890	4855
2	Sa.	16. 10	16. 17	59. 19	59. 46	4821	4788
3	*Su.*	16. 24	16. 30	60. 11	60. 33	4758	4732
4	M.	16. 35	16. 39	60. 52	61. 5	4709	4693
5	Tu.	16. 41	16. 43	61. 15	61. 21	4682	4675
6	W.	16. 43	16. 42	61. 21	61. 17	4675	4679
7	Th.	16. 40	16. 36	61. 9	60. 56	4689	4704
8	F.	16. 32	16. 26	60. 40	60. 20	4723	4747
9	Sa.	16. 20	16. 14	59. 58	59. 35	4773	4801
10	*Su.*	16. 7	16. 0	59. 10	58. 44	4832	4864
11	M.	15. 53	15. 46	58. 18	57. 53	4896	4927
12	Tu	15. 40	15. 33	57. 29	57. 5	4957	4987
13	W.	15. 27	15. 21	56. 43	56. 22	5015	5042
14	Th.	15. 16	15. 11	56. 2	55. 44	5068	5091
15	F.	15. 7	15. 3	55. 28	55. 14	5112	5130
16	Sa.	14. 59	14. 56	55. 1	54. 49	5148	5163
17	*Su.*	14. 53	14. 51	54. 39	54. 30	5177	5189
18	M.	14. 49	14. 47	54. 23	54. 16	5198	5207
19	Tu.	14. 46	14. 45	54. 12	54. 8	5213	5218
20	W.	14. 44	14. 44	54. 6	54. 5	5221	5222
21	Th.	14. 44	14. 45	54. 5	54. 6	5222	5221
22	F.	14. 45	14. 47	54. 9	54. 14	5217	5210
23	Sa.	14. 48	14. 50	54. 20	54. 28	5202	5191
24	*Su.*	14. 53	14. 56	54. 38	54. 50	5178	5162
25	M.	15. 0	15. 4	55. 4	55. 19	5144	5124
26	Tu.	15. 10	15. 15	55. 38	55. 58	5099	5073
27	W.	15. 21	15. 27	56. 20	56. 44	5045	5014
28	Th.	15. 34	15. 42	57. 9	57. 36	4983	4949
29	F.	15. 49	15. 57	58. 4	58. 33	4913	4877
30	Sa.	16. 5	16. 13	59. 2	59. 30	4842	4808

Diſtances of ☽'s Center from Sun, and from Stars eaſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Years.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M S.	D. M. S	D. M. S.	D. M. S.
1	The Sun.	53.29.56	51.54.55	50.19.28	48.43.34	47. 7.13	45.30.26	43.53.14	42.15.36
2		40.37.33	38.59. 5						
7	Fomal-haut.	75.57. 3	74.10. 4	72.23.26	70.37. 9	68.51.13	67. 5.41	65.20.38	63.36. 1
8		61.51.54	60. 8.15	58.25.12	56.42.45	55. 0.54	53.19.42	51.39.15	49.59.35
9		48.20.41	46.42.34	45. 5.27	43.29.21	41.54.15	40.20.19	38.47.40	37.16.19
10		35.46.18							
10	α Arietis.	97.22. 7	95.38. 3	93.54.22	92.11. 5	90.28.12	88.45.42	87. 3.35	85.21.50
11		83.40.28	81.59.27	80.18.48	78.38.32	76.58.38	75.19. 8	73.40. 0	72. 1.13
12		70.22.48	68.44.43	67. 6.59	65.29.36	63.52.34	62.15.53	60.39.32	59. 3.31
13		57.27.50	55.52.28	54.17.26	52.42.43	51. 8.20	49.34.16	48. 0.32	46.27. 8
14		44.54. 3							
14	Aldeba-ran.	75.42.44	74. 9.50	72.37.11	71. 4.46	69.32.36	68. 0.40	66.28.59	64.57.32
15		63.26.19	61.55.20	60.24.36	58.54. 5	57.23.49	55.53.45	54.23.55	52.54.20
16		51.24.58	49.55.50	48.26.57	46.58.19	45.29.56	44. 1.48	42.33.56	41. 6.23
17		39.39. 7	38.12. 8	36.45.31	35.19.17	33.53.26	32.28. 1	31. 3. 4	29.38.38
18		28.14.41							

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hous.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
18	Pollux.	70. 18. 31	68. 48. 53	67. 19. 19	65. 49. 50	64. 20. 25	62. 51. 4	61. 21. 47	59.52.34
19		58. 23. 24	56. 54. 18	55. 25. 15	53. 56. 15	52. 27. 18	50. 58. 24	49. 29. 32	48. 0.42
20		46. 31. 55	45. 3. 9	43. 34. 25	42. 5. 43	40. 37. 3	39. 8. 24	37. 39. 47	36.11.12
21		34. 42. 38							
21	Regulus.	71. 27. 0	69. 58. 23	68. 29. 47	67. 1. 11	65. 32. 35	64. 3. 58	62. 35. 21	61. 6.42
22		59. 38. 2	58. 9. 19	56. 40. 34	55. 11. 46	53. 42. 57	52. 14. 6	50. 45. 13	49.16.16
23		47. 47. 16	46. 18. 11	44. 49. 2	43. 19. 48	41. 50. 30	40. 21. 7	38. 51. 38	37.22. 3
24		35. 52. 23	34. 22. 36	32. 52. 43	31. 22. 43	29. 52. 36	28. 22. 23	26. 52. 3	25.21.35
25		23. 51. 1							
25	Spica ♍	77. 44. 24	76. 13. 3	74. 41. 31	73. 9. 47	71. 37. 51	70. 5. 42	68. 33. 20	67. 0.43
26		65. 27. 52	63. 54. 46	62. 21. 23	60. 47. 45	59. 13. 50	57. 39. 40	56. 5. 11	54.30.25
27		52. 55. 20	51. 19. 56	49. 44. 12	48. 8. 7	46. 31. 41			
25	The Sun.	120. 1. 59	118. 38. 34	117. 14. 56	115. 51. 5	114. 27. 2	113. 2. 45	111. 38. 15	110.13.31
26		108. 48. 33	107. 23. 20	105. 57. 50	104. 32. 4	103. 6. 2	101. 39. 44	100. 13. 8	98.46.13
27		97. 19. 1	95. 51. 29	94. 23. 37	92. 55. 25	91. 26. 54	89. 58. 2	88. 28. 48	86.59.13
28		85. 29. 16	83. 58. 55	82. 28. 12	80. 57. 4	79. 25. 34	77. 53. 41	76. 21. 23	74.48.40
29		73. 15. 33	71. 42. 0	70. 8. 1	68. 33. 37	66. 58. 47	65. 23. 31	63. 47. 49	62.11.42
30		60. 35. 10	58. 58. 12	57. 20. 49	55. 43. 1	54. 4. 47	52. 26. 9	50. 47. 6	49. 7.40
D.1		47. 27. 48							

Diſtances of ☽'s Center from Sun, and from Stars weſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	Regulus.	18. 58. 37	20. 40. 14	22. 22. 25	24. 5. 11	25. 48. 31	27. 32. 24	29. 16. 47	31. 1.41
2		32. 47. 6	34. 32. 59	36. 19. 20	38. 6. 8	39. 53. 24	41. 41. 7	43. 29. 15	45.17.48
3		47. 6. 47	48. 56. 10	50. 45. 55	52. 36. 3	54. 26. 33			
7	The Sun.							39. 34. 37	41.18. 5
8		43. 1. 18	44. 44. 14	46. 26. 51	48. 9. 10	49. 51. 10	51. 32. 49	53. 14. 8	54.55. 6
9		56. 35. 44	58. 16. 0	59. 55. 53	61. 35. 24	63. 14. 33	64. 53. 18	66. 31. 40	68. 9.39
10		69. 47. 15	71. 24. 28	73. 1. 18	74. 37. 45	76. 13. 49	77. 49. 26	79. 24. 41	80.59.35
11		82. 34. 8	84. 8. 18	85. 42. 6	87. 15. 31	88. 48. 35	90. 21. 15	91. 53. 34	93.25.32
12		94. 57. 10	96. 28. 27	97. 59. 25	99. 30. 3	101. 0. 22	102. 30. 21	104. 0. 1	105.29.23
13		106. 58. 26	108. 27. 12	109. 55. 41	111. 23. 53	112. 51. 48	114. 19. 26	115. 46. 48	117.13.55
14		118. 40. 46	120. 7. 23						
11	Antares.					71. 38. 8	73. 18. 33	74. 58. 37	76.38.20
12		78. 17. 42	79. 56. 44	81. 35. 27	83. 13. 50	84. 51. 53	86. 29. 37	88. 7. 3	89.44.10
13		91. 21. 0	92. 57. 32	94. 33. 48	96. 9. 47	97. 45. 29	99. 20. 55	100. 56. 6	102.31. 1
14		104. 5. 41							
14	α Aquilæ.	58. 33. 29	59. 45. 8	60. 57. 10	62. 9. 34	63. 22. 21	64. 35. 31	65. 48. 58	67. 2.41
15		68. 16. 41	69. 30. 49	70. 45. 13	71. 59. 44	73. 14. 25	74. 29. 13	75. 44. 7	76.59. 5
16		78. 14. 9	79. 29. 14	80. 44. 21	81. 59. 28	83. 14. 37	84. 29. 45	85. 44. 51	86.59.54
17		88. 14. 55							

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
17	α Pegaſi.	40. 27. 25	41. 43. 39	43. 0. 30	44. 17. 56	45. 35. 55	46. 54. 22	48. 13. 15	49. 32. 33
18		50. 52. 17	52. 12. 17	53. 32. 34	54. 53. 8	56. 13. 58	57. 35. 2	58. 56. 16	60. 17. 40
19		61. 39. 15							
19	α Arietis.	18. 1. 50	19. 23. 31	20. 45. 54	22. 8. 58	23. 32. 45	24. 57. 5	26. 21. 50	27. 47. 2
20		29. 12. 35	30. 38. 19	32. 4. 17	33. 30. 27	34. 56. 50	36. 23. 19	37. 49. 57	39. 16. 42
21		40. 43. 35	42. 10. 34	43. 37. 38	45. 4. 48	46. 32. 4	47. 59. 25	49. 26. 50	50. 54. 19
22		52. 21. 53							
22	Aldebaran.	23. 0. 45	24. 21. 9	25. 42. 18	27. 4. 11	28. 26. 46	29. 49. 59	31. 13. 42	32. 37. 56
23		34. 2. 41	35. 27. 46	36. 53. 11	38. 18. 58	39. 45. 6	41. 11. 30	42. 38. 10	44. 5. 8
24		45. 32. 22	46. 59. 51	48. 27. 34	49. 55. 33	51. 23. 46	52. 52. 13	54. 20. 54	55. 49. 50
25		57. 19. 1	58. 48. 27	60. 18. 8	61. 48. 5	63. 18. 16	64. 48. 43	66. 19. 25	67. 50. 23
26		69. 21. 36							
26	Pollux.	25. 23. 12	26. 56. 6	28. 29. 17	30. 2. 45	31. 36. 29	33. 10. 31	34. 44. 51	36. 19. 30
27		37. 54. 28	39. 29. 46	41. 5. 25	42. 41. 24	44. 17. 44	45. 54. 24	47. 31. 25	49. 8. 49
28		50. 46. 35	52. 24. 44	54. 3. 18	55. 42. 16	57. 21. 38			
28	Regulus.					20. 45. 3	22. 24. 3	24. 3. 34	25. 43. 35
29		27. 24. 6	29. 5. 6	30. 46. 35	32. 28. 33	34. 11. 0	35. 53. 55	37. 37. 18	39. 21. 11
30		41. 5. 30	42. 50. 15	44. 35. 26	46. 21. 6	48. 7. 13	49. 53. 47	51. 40. 48	53. 28. 16
D. 1		55. 16. 11							

Configurations of the SATELLITES of JUPITER at 5 o'Clock in the Evening.

1	3.0 2. 1.	⊙	4.
2	2.0	⊙	·1 ·3 4.
3	·1	⊙	2. 3. 4.
4	2.	⊙	1.3.4.
5	·2 3. ·1 4.	⊙	
6	3. 4.	⊙	1. ·2
7	4. ·3	⊙	2. 1.0
8	4. 2. 1.	⊙	3.0
9	·2	⊙	·1 ·3
10	·4 1.	⊙	2. 3.
11	·4 2.	⊙	1. 3.
12	·4 ·2 3. ·	⊙	
13	3. ·4	⊙	1. ·2
14	1.0 ·3	⊙	2. ·4
15	2. ·3 1.	⊙	·4

Configurations at ½ past 4 o'Clock in the Evening.

16	·2	⊙	·1 ·3 ·4
17	·1.	⊙	·2 ·3 ·4
18	2●	⊙	·1 3. 4.
19	3● ·2 ·1	⊙	4.
20	3.	⊙	·2 1. 4.
21	·3 ·1	⊙	4. 2.
22	1● 2. ·3 4.	⊙	
23	4. ·2	⊙	·1 ·3
24	4. 1.	⊙	·2 ·3
25	4.	⊙	2. ·1 3.
26	·4 2. 1.	⊙	3●
27	·4 3.	⊙	·2 1.
28	·4 ·3 ·1	⊙	2.
29	·4 ·3 2.	⊙	1.
30	1.0 4.0 ·2	⊙	·3

DECEMBER 1782.

Days of the Month.	Days of the Week.	Sundays, Holidays, &c
1	*Su.*	*Advent Sunday.*
2	M.	
3	Tu.	
4	W.	
5	Th.	
6	F.	Nicholas.
7	Sa.	
8	*Su.*	*2d Sunday in Advent.*
9	M.	[Concep. of V. Mary.
10	Tu.	
11	W.	
12	Th.	
13	F.	Lucy.
14	Sa.	
15	*Su.*	*3d Sunday in Advent.*
16	M.	O Sap. Camb. T. ends.
17	Tu.	Oxford Term ends.
18	W.	
19	Th.	
20	F.	
21	Sa.	*St. Thomas.*
22	*Su.*	*4th Sunday in Advent.*
23	M.	
24	Tu.	
25	W.	*Chriſtmas-Day.*
26	Th.	*St. Stephen.*
27	F.	*St. John.*
28	Sa.	*Innocents.*
29	*Su.*	*Sunday after Chriſtmas.*
30	M.	
31	Tu.	Silveſter.

Phaſes of the Moon.

	D.	H.	M.
New Moon —	4.	9.	20
Firſt Quarter —	11.	4.	1
Full Moon —	19.	7.	39
Laſt Quarter —	27.	4.	24

Other Phenomena.

D.
3. ☿ 4 ad ζ ♎ diff. Lat. 15′
6. ☾ τ ♐ 6^{h}. 45′.
8. ☾ ε ♑ 17^{h}. 13′.
☾ δ ♑ 23^{h}. 1′.
9. ☾ ι ♒ 8^{h}. 4′.
☿ β ♏ diff. Lat. 15′.
10. ☿ ν ♏ diff. Lat. 30′.
☾ φ ♒ 17^{h}. 20′.
11. ♂ α ♎ diff. Lat. 15′.
13. ☾ ε ♓ 3^{h}. 29′.
☾ ζ ♓ 8^{h}. 4′.
16. ☾ η Pleiadum 16^{h}. 39′.
18. ☾ β ♉ 14^{h}. 20′.
20. ☾ ι ♊ 19^{h}. 11′.
21. ☉ enters ♑ at 3^{h}. 23′.
☾ 2 ad ⸸ ♋ 15^{h}. 38′.
22. ☾ γ ♋ 8^{h}. 0′.
25. ☾ χ ♌ 7^{h}. 9′.
☾ σ ♌ 14^{h}. 59′.
26. ☾ β ♍ 6^{h}. 30′.
28. ☾ α ♍ 6^{h}. 14′.
30. ♂ κ ♎ diff. Lat. 26′.
31. ☾ σ ♏ 7^{h}. 16′.
☾ α ♏ 10^{h}. 24′.

DECEMBER 1782.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. South.	Equat. of Time. Sub.	Diff.
		S. D. M. S.	H. M. S.	D. M. S.	M. S.	S.
1	*Su.*	8. 9. 30. 5	16. 31. 18,0	21.54.14	10. 29,4	23,4
2	M.	8. 10. 31. 2	16. 35. 38,1	22. 3.11	10. 6,0	24,1
3	Tu.	8. 11. 32. 0	16. 39. 58,8	22.11.43	9. 41,9	24,7
4	W.	8. 12. 33. 0	16. 44. 20,1	22.19.49	9. 17,2	25,2
5	Th.	8. 13. 34. 1	16. 48. 42,0	22.27.28	8. 52,0	25,8
6	F.	8. 14. 35. 2	16. 53. 4,4	22.34.41	8. 26,2	26,3
7	Sa.	8. 15. 36. 5	16. 57. 27,3	22.41.27	7. 59,9	26,7
8	*Su.*	8. 16. 37. 8	17. 1. 50,6	22.47.47	7. 33,2	27,1
9	M.	8. 17. 38. 11	17. 6. 14,4	22.53.40	7. 6,1	27,5
10	Tu.	8. 18. 39. 15	17. 10. 38,6	22.59. 6	6. 38,6	28,0
11	W.	8. 19. 40. 19	17. 15. 3,2	23. 4. 4	6. 10,6	28,3
12	Th.	8. 20. 41. 24	17. 19. 28,1	23. 8.34	5. 42,3	28,6
13	F.	8. 21. 42. 29	17. 23. 53,3	23.12.37	5. 13,7	28,8
14	Sa.	8. 22. 43. 34	17. 28. 18,8	23.16.12	4. 44,9	29,1
15	*Su.*	8. 23. 44. 40	17. 32. 44,5	23.19.20	4. 15,8	29,3
16	M.	8. 24. 45. 47	17. 37. 10,4	23.21.59	3. 46,5	29,5
17	Tu.	8. 25. 46. 53	17. 41. 36,6	23.24.10	3. 17,0	29,7
18	W.	8. 26. 48. 0	17. 46. 2,9	23.25.53	2. 47,3	29,8
19	Th.	8. 27. 49. 7	17. 50. 29,3	23.27. 8	2. 17,5	29,9
20	F.	8. 28. 50. 14	17. 54. 55,9	23.27.54	1. 47,6	30,0
21	Sa.	8. 29. 51. 22	17. 59. 22,5	23.28.12	1. 17,6	29,9
22	*Su.*	9. 0. 52. 31	18. 3. 49,0	23.28. 2	0. 47,7	29,9
23	M.	9. 1. 53. 40	18. 8. 15,6	23.27.24	0. 17,8	30,0
24	Tu.	9. 2. 54. 50	18. 12. 42,2	23.26.17	Ad: 12,2	29,9
25	W.	9. 3. 56. 0	18. 17. 8,8	23.24.42	0. 42,1	29,9
26	Th.	9. 4. 57. 11	18. 21. 35,3	23.22.38	1. 12,0	29,7
27	F.	9. 5. 58. 22	18. 26. 1,7	23.20. 6	1. 41,7	29,6
28	Sa.	9. 6. 59. 33	18. 30. 27,9	23.17. 7	2. 11,3	29,4
29	*Su.*	9. 8. 0. 45	18. 34. 53,9	23.13.39	2. 40,7	29,1
30	M.	9. 9. 1. 57	18. 39. 19,6	23. 9.43	3. 9,8	28,9
31	Tu.	9. 10. 3. 10	18. 43. 45,1	23. 5.19	3. 38,7	28,7

Days of the Month.	Semidiameter of the Sun.	Time of D° paſſing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Diſtance.	Place of the Moon's Node.
	M. S.	M. S.	M. S.		S. D. M.
1	16. 17,1	1. 10,2	2. 32,2	9. 993607	0. 3. 39
7	16. 17,9	1. 10,7	2. 32,5	9. 993265	0. 3. 20
13	16. 18,5	1. 11,0	2. 32,7	9. 992977	0. 3. 1
19	16. 19,0	1. 11,1	2. 32,8	9. 992775	0. 2. 42
25	16. 19,2	1. 11,1	2. 32,9	9. 992677	0. 2. 23

The Eclipſes of JUPITER's Satellites will not be viſible this Month, JUPITER being too near the SUN.

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Passage over Merid.
	S. D. M.	D. M.	S. D. M.	D. M.	D. M.	H. M.
			MERCURY.			
1	5. 8. 58	6. 26 N	7. 19. 18	2. 14 N	15. 25 S	22. 39
4	5. 22. 1	5. 39	7. 22. 54	1. 56	16. 39	22. 40
7	6. 3. 53	4. 41	7. 26. 51	1. 35	17. 55	22. 42
10	6. 14. 48	3. 37	8. 1. 1	1. 13	19. 11	22. 45
13	6. 24. 55	2. 30	8. 5. 20	0. 51	20. 23	22. 49
16	7. 4. 24	1. 23	8. 9. 46	0. 28	21. 29	22. 54
19	7. 13. 25	0. 17 N	8. 14. 15	0. 6 N	22. 26	23. 0
22	7. 22. 5	0. 46 S	8. 18. 47	0. 16 S	23. 15	23. 6
25	8. 0. 30	1. 47	8. 23. 23	0. 36	23. 53	23. 12
28	8. 8. 47	2. 45	8. 28. 1	0. 55	24. 22	23. 20
31	8. 17. 1	3. 39	9. 2. 42	1. 12	24. 38	23. 26
			VENUS.			
1	7. 20. 1	1. 25 N	8. 1. 16	0. 37 N	19. 50 S	23. 26
7	7. 29. 35	0. 53	8. 8. 49	0. 23	21. 25	23. 32
13	8. 9. 8	0. 20 N	8. 16. 22	0. 8 N	22. 38	23. 38
19	8. 18. 40	0. 14 S	8. 23. 56	0. 6 S	23. 25	23. 44
25	8. 28. 10	0. 47	9. 1. 29	0. 20	23. 47	23. 50
			MARS.			
1	6. 15. 13	1. 0 N	7. 5. 14	0. 42 N	12. 38 S	21. 40
7	6. 18. 0	0. 56	7. 9. 12	0. 39	13. 57	21. 29
13	6. 20. 47	0. 52	7. 13. 11	0. 36	15. 14	21. 18
19	6. 23. 36	0. 47	7. 17. 10	0. 33	16. 27	21. 7
25	6. 26. 26	0. 41	7. 21. 9	0. 30	17. 35	20. 57
			JUPITER. ☌ 31d. 11½h.			
1	9. 8. 0	0. 1 N	9. 3. 34	0. 1 N	23. 24 S	1. 44
7	9. 8. 30	0. 0	9. 4. 55	0. 0	23. 22	1. 24
13	9. 9. 0	0. 0	9. 6. 16	0. 0	23. 19	1. 4
19	9. 9. 30	0. 1 S	9. 7. 39	0. 1 S	23. 14	0. 43
25	9. 10. 0	0. 2	9. 9. 2	0. 1	23. 9	0. 22
			SATURN. ☌ 24d. 20h.			
1	9. 3. 3	0. 48 N	9. 1. 0	0. 44 N	22. 43 S	1. 33
7	9. 3. 14	0. 48	9. 1. 41	0. 44	22. 43	1. 10
13	9. 3. 25	0. 47	9. 2. 22	0. 43	22. 43	0. 46
19	9. 3. 35	0. 47	9. 3. 5	0. 43	22. 43	0. 23
25	9. 3. 46	0. 47	9. 3. 47	0. 42	22. 42	23. 59

DECEMBER 1782.

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S. D. M. S.	S. D. M. S.	D. M. S.	D.M.S.
1	*Su.*	6. 22. 3. 21	6. 29. 18. 38	1. 29. 13 S	2. 5.18 S
2	M.	7. 6. 40. 31	7. 14. 8. 23	2. 39. 49	3.12. 0
3	Tu.	7. 21. 41. 21	7. 29. 18. 21	3. 41. 10	4. 6.38
4	W.	8. 6. 58. 4	8. 14. 39. 5	4. 27. 46	4.44. 6
5	Th.	8. 22. 19. 52	8. 29. 58. 55	4. 55. 18	5. 1. 7
6	F.	9. 7. 34. 47	9. 15. 6. 9	5. 1. 35	4.56.47
7	Sa.	9. 22. 31. 58	9. 29. 51. 19	4. 47. 0	4.32.35
8	*Su.*	10. 7. 3. 35	10. 14. 8. 26	4. 14. 2	3.51.51
9	M.	10. 21. 5. 40	10. 27. 55. 22	3. 26. 33	2.58.44
10	Tu.	11. 4. 37. 46	11. 11. 13. 13	2. 28. 52	1.57.30
11	W.	11. 17. 42. 12	11. 24. 5. 14	1. 25. 4	0.52. 7 S
12	Th.	0. 0. 22. 56	0. 6. 35. 54	0. 18. 57 S	0.14. 1 N
13	F.	0. 12. 44. 45	0. 18. 50. 6	0. 46. 27 N	1.18. 0
14	Sa.	0. 24. 52. 35	1. 0. 52. 42	1. 48. 24	2.17.21
15	*Su.*	1. 6. 51. 2	1. 12. 48. 2	2. 44. 37	3. 9.56
16	M.	1. 18. 44. 9	1. 24. 39. 45	3. 33. 4	3.53.50
17	Tu.	2. 0. 35. 13	2. 6. 30. 46	4. 12. 1	4.27.27
18	W.	2. 12. 26. 41	2. 18. 23. 10	4. 39. 58	4.49 27
19	Th.	2. 24. 20. 23	3. 0. 18. 28	4. 55. 47	4.58.52
20	F.	3. 6. 17. 35	3. 12. 17. 49	4. 58. 39	4.55. 8
21	Sa.	3. 18. 19. 20	3. 24. 22. 16	4. 48. 16	4.38. 9
22	*Su.*	4. 0. 26. 48	4. 6. 33. 6	4. 24. 48	4. 8.20
23	M.	4. 12. 41. 27	4. 18. 52. 6	3. 48. 53	3.26.35
24	Tu.	4. 25. 5. 23	5. 1. 21. 38	3. 1. 38	2.34.17
25	W.	5. 7. 41. 17	5. 14. 4. 42	2. 4. 46	1.33.20
26	Th.	5. 20. 32. 20	5. 27. 4. 38	1. 0. 20 N	0.26. 9 N
27	F.	6. 3. 42. 1	6. 10. 24. 54	0. 8. 51 S	0.44.13 S
28	Sa.	6. 17. 13. 36	6. 24. 8. 24	1. 19. 28	1.54. 3
29	*Su.*	7. 1. 9. 29	7. 8. 16. 52	2. 27. 25	2.58.59
30	M.	7. 15. 30. 26	7. 22. 49. 52	3. 28. 8	3.54.12
31	Tu.	8. 0. 14. 36	8. 7. 43. 56	4. 16. 39	4.34.55

DECEMBER 1782. VI.

Days of the Month.	Days of the Week.	☽'s Age.	☽'s Paſsage over Merid.	☽'s Right Aſcen. at Noon.	☽'s Right Aſc. at Midn.	☽'s Declination at Noon.	☽'s Declination at Midn.
			H. M.	D. M.	D. M.	D. M.	D. M.
1	*Su.*	27	21. 33	199. 49	206. 29	9. 59 S	13. 12 S
2	M.	28	22. 30	213. 25	220. 40	16. 16	19. 9
3	Tu.	29	23. 31	228. 14	236. 7	21. 46	24. 2
4	W.	1	☌	244. 18	252. 44	25. 54	27. 17
5	Th.	2	0. 38	261. 20	269. 59	28. 9	28. 29
6	F.	3	1. 46	278. 35	287. 1	28. 16	27. 31
7	Sa.	4	2. 51	295. 13	303. 6	26. 18	24. 38
8	*Su.*	5	3. 49	310. 38	317. 48	22. 37	20. 18
9	M.	6	4. 42	324. 39	331. 10	17. 44	15. 0
10	Tu.	7	5. 29	337. 25	343. 26	12. 8	9. 10
11	W.	8	6. 12	349. 15	354. 55	6. 10	3. 9 S
12	Th.	9	6. 53	0. 28	5. 58	0. 8 S	2. 50 N
13	F.	10	7. 34	11. 26	16. 53	5. 45 N	8. 35
14	Sa.	11	8. 15	22. 22	27. 55	11. 19	13. 56
15	*Su.*	12	8. 57	33. 34	39. 20	16. 24	18. 43
16	M.	13	9. 41	45. 13	51. 16	20. 50	22. 44
17	Tu.	14	10. 29	57. 28	63. 48	24. 24	25. 49
18	W.	15	11. 19	70. 18	76. 54	26. 56	27. 46
19	Th.	16	12. 10	83. 36	90. 21	28. 16	28. 27
20	F.	17	13. 0	97. 8	103. 53	28. 18	27. 48
21	Sa.	18	13. 50	110. 35	117. 11	26. 58	25. 50
22	*Su.*	19	14. 39	123. 42	130. 4	24. 23	22. 40
23	M.	20	15. 25	136. 19	142. 26	20. 41	18. 28
24	Tu.	21	16. 10	148. 26	154. 20	16. 1	13. 24
25	W.	22	16. 53	160. 10	165. 56	10. 37	7. 43
26	Th.	23	17. 36	171. 43	177. 29	4. 41 N	1. 34 N
27	F.	24	18. 21	183. 20	189. 17	1. 36 S	4. 48 S
28	Sa.	25	19. 8	195. 22	201. 38	8. 0	11. 9
29	*Su.*	26	20. 0	208. 8	214. 54	14. 12	17. 6
30	M.	27	20. 57	221. 58	229. 21	19. 49	22. 16
31	Tu.	28	22. 0	237. 4	245. 7	24. 24	26. 8

Days of the Month.	Days of the Week.	Semid^{r}. ☽ at Noon.	Semid^{r}. ☽ at Midnight.	Hor. Par. ☽ at Noon.	Hor. Par. ☽ at Midnight.	Proport. Logar. at Noon.	Proport. Logar. at Midn.
		M. S.	M. S.	M. S.	M. S.		
1	*Su.*	16. 20	16. 27	59. 57	60. 23	4775	4743
2	M.	16. 33	16. 38	60. 45	61. 4	4717	4694
3	Tu.	16. 42	16. 45	61. 18	61. 29	4678	4665
4	W.	16. 47	16. 47	61. 35	61. 36	4658	4657
5	Th.	16. 45	16. 43	61. 30	61. 20	4664	4676
6	F.	16. 39	16. 34	61. 7	60. 49	4691	4712
7	Sa.	16. 28	16. 22	60. 27	60. 3	4739	4768
8	*Su.*	16. 15	16. 7	59. 37	59. 8	4799	4834
9	M.	15. 59	15. 51	58. 39	58. 9	4870	4907
10	Tu.	15. 43	15. 36	57. 40	57. 14	4943	4976
11	W.	15. 29	15. 22	56. 48	56. 23	5009	5041
12	Th.	15. 16	15. 10	56. 0	55. 39	5071	5098
13	F.	15. 5	15. 0	55. 21	55. 4	5122	5144
14	Sa.	14. 56	14. 53	54. 49	54. 36	5163	5181
15	*Su.*	14. 50	14. 48	54. 27	54. 19	5193	5203
16	M.	14. 46	14. 45	54. 13	54. 9	5211	5217
17	Tu.	14. 45	14. 44	54. 6	54. 4	5221	5223
18	W.	14. 44	14. 45	54. 5	54. 6	5222	5221
19	Th.	14. 45	14. 46	54. 9	54. 13	5217	5211
20	F.	14. 48	14. 50	54. 18	54. 24	5205	5197
21	Sa.	14. 52	14. 54	54. 32	54. 41	5186	5174
22	*Su.*	14. 57	15. 0	54. 51	55. 3	5161	5145
23	M.	15. 3	15. 7	55. 15	55. 29	5129	5111
24	Tu.	15. 11	15. 16	55. 45	56. 2	5090	5068
25	W.	15. 21	15. 27	56. 21	56. 41	5044	5018
26	Th.	15. 33	15. 39	57. 2	57. 24	4991	4964
27	F.	15. 45	15. 52	57. 48	58. 13	4933	4902
28	Sa.	15. 58	16. 5	58. 37	59. 2	4872	4842
29	*Su.*	16. 12	16. 18	59. 26	59. 49	4812	4784
30	M.	16. 24	16. 29	60. 11	60. 30	4758	4735
31	Tu.	16. 34	16. 38	60. 48	61. 1	4714	4698

Diſtances of ☽'s Center from Sun, and from Stars eaſt of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.
1	The Sun.	47. 27. 48	45. 47. 33	44. 6. 56	42. 25. 57	40. 44. 35			
6	Fomal-haut.	53. 59. 15	52. 15. 28	50. 32. 20	48. 49. 57	47. 8. 25	45. 27. 46	43. 48. 15	42. 9.51
7		40. 32. 35	38. 56. 41	37. 22. 12	35. 49. 13	34. 17. 50			
7	α Arietis.					95. 28. 40	93. 41. 4	91. 53. 54	90. 7.10
8		88. 20. 51	86. 34. 58	84. 49. 32	83. 4. 33	81. 20. 1	79. 35. 57	77. 52. 20	76. 9.11
9		74. 26. 29	72. 44. 15	71. 2. 28	69. 21. 8	67. 40. 16	65. 59. 51	64. 19. 54	62.40.23
10		61. 1. 19	59. 22. 42	57. 44. 32	56. 6. 47	54. 29. 30	52. 52. 39	51. 16. 13	49.40.13
11		48. 4. 38							
11	Aldeba-ran.	78. 58. 29	77. 23. 26	75. 48. 43	74. 14. 20	72. 40. 17	71. 6. 38	69. 33. 19	68. 0.20
12		66. 27. 42	64. 55. 22	63. 23. 22	61. 51. 42	60. 20. 23	58. 49. 20	57. 18. 35	55.48.10
13		54. 18. 5	52. 48. 14	51. 18. 42	49. 49. 28	48. 20. 33	46. 51. 56	45. 23. 36	43.55.35
14		42. 27. 52	41. 0. 28	39. 33. 26	38. 6. 46	36. 40. 27	35. 14. 27	33. 48. 56	32.23.52
15		30. 59. 17	29. 35. 6	28. 11. 38	26. 48. 52	25. 26. 50	24. 5. 42	22. 45. 35	21.26.33
16		20. 8. 35							
16	Pollux.	61. 17. 50	59. 48. 59	58. 20. 10	56. 51. 23	55. 22. 38	53. 53. 55	52. 25. 13	50.56.32
17		49. 27. 53	47. 59. 15	46. 30. 37	45. 1. 59	43. 33. 22	42. 4. 45	40. 36. 6	39. 7.28
18		37. 38. 49	36. 10. 9	34. 41. 28	33. 12. 46	31. 44. 3	30. 15. 18	28. 46. 33	27.17.45
19		25. 48. 56							

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S	D. M. S.	D. M. S.
19	Regulus.	62. 32. 44	61. 3. 44	59. 34. 41	58. 5. 35	56. 36. 25	55. 7. 12	53. 37. 55	52. 8. 34
20		50. 39. 10	49. 9. 41	47. 40. 9	46. 10. 32	44. 40. 51	43. 11. 6	41. 41. 16	40. 11. 21
21		38. 41. 21	37. 11. 16	35. 41. 6	34. 10. 50	32. 40. 30	31. 10. 4	29. 39. 32	28. 8. 56
22		26. 38. 14	25. 7. 28	23. 36. 37	22. 5. 42	20. 34. 42			
22	Spica ♍					74. 28. 1	72. 56. 15	71. 24. 20	69. 52. 16
23		68. 20. 3	66. 47. 40	65. 15. 7	63. 42. 23	62. 9. 29	60. 36. 24	59. 3. 7	57. 29. 39
24		55. 55. 59	54. 22. 7	52. 48. 2	51. 13. 43	49. 39. 12	48. 4. 27	46. 29. 27	44. 54. 13
25		43. 18. 45	41. 43. 1	40. 7. 2	38. 30. 46	36. 54. 15	35. 17. 27	33. 40. 23	32. 3. 0
26		30. 25. 21	28. 47. 24	27. 9. 7	25. 30. 33	23. 51. 39	22. 12. 26	20. 32. 54	18. 53. 0
27		17. 12. 49							
24	The Sun.					122. 1. 37	120. 34. 59	119. 8. 6	117. 40. 59
25		116. 13. 35	114. 45. 57	113. 18. 3	111. 49. 52	110. 21. 25	108. 52. 41	107. 23. 39	105. 54. 20
26		104. 24. 43	102. 54. 47	101. 24. 33	99. 54. 0	98. 23. 8	96. 51. 56	95. 20. 25	93. 48. 33
27		92. 16. 21	90. 43. 48	89. 10. 55	87. 37. 40	86. 4. 5	84. 30. 8	82. 55. 49	81. 21. 9
28		79. 46. 7	78. 10. 43	76. 34. 57	74. 58. 49	73. 22. 19	71. 45. 26	70. 8. 12	68. 30. 35
29		66. 52. 37	65. 14. 17	63. 35. 35	61. 56. 33	60. 17. 9	58. 37. 24	56. 57. 19	55. 16. 54
30		53. 36. 10	51. 55. 6	50. 13. 45	48. 32. 7	46. 50. 12	45. 8. 1	43. 25. 36	41. 42. 56
31		40. 0. 2							

Diſtances of ☽'s Center from Sun, and from Stars weſt of her.

Days.	Stars Names.	Noon. D. M. S.	3 Hours. D. M. S.	6 Hours. D. M. S.	9 Hours. D. M. S.	12 Hours. D. M. S.	15 Hours. D. M. S.	18 Hours. D. M. S.	21 Hours. D. M. S.
1	Regulus.	55. 16. 10	57. 4. 31	58. 53. 17	60. 42. 28	62. 32. 5	64. 22. 6	66. 12. 29	68. 3. 14
2		69. 54. 22	71. 45. 52	73. 37. 40	75. 29. 49	77. 22. 16	79. 15. 1	81. 8. 2	83. 1. 18
3		84. 54. 51							
7	The Sun.		38. 53. 21	40. 34. 36	42. 15. 28	43. 55. 59	45. 36. 7	47. 15. 52	48. 55. 13
8		50. 34. 11	52. 12. 44	53. 50. 52	55. 28. 34	57. 5. 51	58. 42. 41	60. 19. 5	61. 55. 3
9		63. 30. 35	65. 5. 41	66. 40. 20	68. 14. 34	69. 48. 22	71. 21. 44	72. 54. 41	74. 27. 12
10		75. 59. 19	77. 31. 1	79. 2. 19	80. 33. 13	82. 3. 43	83. 33. 50	85. 3. 34	86. 32. 56
11		88. 1. 55	89. 30. 33	90. 58. 50	92. 26. 46	93. 54. 21	95. 21. 37	96. 48. 34	98. 15. 12
12		99. 41. 31	101. 7. 33	102. 33. 18	103. 58. 46	105. 23. 57	106. 48. 52	108. 13. 33	109. 37. 58
13		111. 2. 9	112 26. 6	113. 49. 49	115. 13. 21	116. 36. 38	117. 59. 44	119. 22. 39	120. 45. 23
11	α Aquilæ	55. 57. 28	57. 9. 24	58. 21. 46	59. 34. 35	60. 47. 49	62. 1. 25	63. 15. 18	64. 29. 27
12		65. 43. 54	66. 58. 31	68. 13. 18	69. 28. 13	70. 43. 18	71. 58. 28	73. 13. 41	74. 28. 58
13		75. 44. 19	76. 59. 39	78. 15. 0	79. 30. 20	80. 45. 41	82. 1. 1	83. 16. 16	84. 31. 29
14		85. 46. 39							
14	α Pegaſi.	37. 59. 1	39. 13. 56	40. 29. 32	41. 45. 49	43. 2. 47	44. 20. 16	45. 38. 17	46. 56. 45
15		48. 15. 41	49. 34. 54	50. 54. 28	52. 14. 21	53. 34. 32	54. 55. 0	56. 15. 40	57. 36. 33
16		58. 57. 38							

Days	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S.	D. M. S	D. M S.	D. M. S.
16	α Arietis.	15. 23. 42	16. 42. 52	18. 3. 5	19. 24. 24	20. 46. 38	22. 9. 44	23. 33. 27	24.57.49
17		26. 22. 43	27. 47. 51	29. 13. 18	30. 39. 4	32. 5. 6	33. 31. 19	34. 57. 43	36.24 19
18		37. 51. 6	39. 18. 1	40. 45. 4	42. 12. 15	43. 39. 35	45. 7. 2	46. 34. 35	48. 2.14
19		49. 30. 0							
19	Aldebaran.	20. 24. 30	21. 42. 51	23. 2. 15	24. 22. 40	25. 44. 5	27. 6. 23	28. 29. 21	29.53. 1
20		31. 17. 21	32. 42. 3	34. 7. 10	35. 32. 42	36. 58. 40	38. 24. 55	39. 51. 28	41.18.22
21		42. 45. 30	44. 12. 54	45. 40. 33	47. 8. 26	48. 36. 34	50. 4. 54	51. 33. 27	53. 2.12
22		54. 31. 10	56. 0. 19	57. 29. 41	58. 59. 14	60. 28. 59	61. 58. 56	63. 29. 5	64.59.26
23		66. 29. 58							
23	Pollux.	22. 32. 32	24. 4. 36	25. 36. 52	27. 9. 20	28. 42. 0	30. 14. 53	31. 47. 58	33.21.16
24		34. 54. 47	36. 28. 30	38. 2. 27	39. 36. 37	41. 11. 1	42. 45. 39	44. 20. 33	45.55.41
25		47. 31. 4	49. 6. 42	50. 42. 36	52. 18. 47	53. 55. 13	55. 31. 57	57. 8. 58	58.46.17
26		60. 23. 53							
26	Regulus.	23. 43. 28	25. 20. 56	26. 58. 45	28. 36. 56	30. 15. 27	31. 54. 20	33. 33. 35	35.13.12
27		36. 53. 10	38. 33. 30	40. 14. 12	41. 55. 16	43. 36. 42	45. 18. 30	47. 0. 40	48.43.13
28		50. 26. 8	52. 9. 26	53. 53. 7	55. 37. 11	57. 21. 38	59. 6. 28	60. 51. 41	62.37.16
29		64. 23. 14	66. 9. 35	67. 56. 18	69. 43. 23	71. 30. 51			
29	Spica ♍					17. 28. 31	19. 16. 25	21. 4. 41	22.53.18
30		24. 42. 17	26. 31. 37	28. 21. 15	30. 11. 14	32. 1. 32	33. 52. 8	35. 43. 2	37.34.12
31		39. 25. 40	41. 17. 26	43. 9. 24	45. 1. 36	46. 54. 0	48. 46. 39	50. 39. 28	52.32.28
J. 1		54. 25. 38							

The Satellites of JUPITER will not be viſible this Month, JUPITER being too near the SUN.

EXPLANATION and USE

OF THE

ARTICLES

CONTAINED IN THE

ASTRONOMICAL and NAUTICAL EPHEMERIS.

IT may be proper firſt to premiſe, that all the Calculations of the Ephemeris are made according to apparent Time by the Meridian of the Royal Obſervatory at Greenwich: And the Sun's, Planet's, and Moon's Places, with the Particulars depending on them in the 2d, 4th, 5th, 6th, and 7th Pages of each Month, are computed to the Inſtant of apparent Noon, or that of the Sun's Centre paſſing the Meridian of Greenwich.

Apparent Time, at any Place, is that deduced immediately from the Sun, whether from the Obſervation of his paſſing the Meridian, from his Altitude obſerved at a Diſtance from the Meridian, or from his obſerved Riſing or Setting. This Time is different from that ſhewn by Clocks and Watches well regulated at Land, which is called equated or mean Time. This will be explained when we come to treat of the Equation of Time.

The Day is here ſuppoſed, according to the Method of Aſtronomers, to begin at Noon, or 12 Hours later than the civil Day of the ſame Denomination, and to be counted up to 24 Hours, or the ſucceeding Noon, when the next Day begins. Thus the Day of the Month and the Hour of the Day are the ſame in this Method as in the civil Account at Noon, and from Noon till Midnight; but from Midnight till Noon they differ; for whereas in the civil Account a freſh Day is ſuppoſed to begin at Midnight, and the Hours to begin over again, in this Method the Day is ſtill continued beyond Midnight, and the Reckoning of the Hours is continued up to 24. Thus the Diſtances put down to January 10, 15 Hours belong to January 11 at Three in the Morning by civil Reckoning.

There are 12 Pages for every Month. The firſt Column of the firſt Page of each Month contains the Day of the Month; the ſecond, the Day of the Week expreſſed conciſely by the initial Letter or Letters, *Su.* ſtanding for Sunday, M. for Monday, Tu. for Tueſday, W. for Wedneſday, Th. for Thurſday, F. for Friday, and Sa. for Saturday: The third Column exhibits the Sundays and Feſtivals of the Church of England, and other remarkable Days: The laſt Column ſhews at Top the Moon's Phaſes, or the Times of new and full Moon, and of the firſt and laſt Quarter or two Quadratures with the Sun: Beneath are contained miſcellaneous Phænomena, namely, Eclipſes of the Sun and Moon, and Occultations of Planets or fixed Stars not leſs than the fourth Magnitude, by the Moon, as they ſhould happen at Greenwich by the Tables; the Conjunctions of the Moon with all Stars not leſs than the fourth Magnitude, which can be Occultations any where on the Globe, between the Latitudes of 60°. North and 40°. South: The Entrance of the Sun into the ſeveral Signs, and any other remarkable Phænomena.

The Stars are expreſſed by Bayer's Characters of Reference. The Conjunction of the Moon or a Planet with a Star, is denoted by prefixing the Character of the Moon or Planet to that of the Star, the Time of the Conjunction being placed immediately after. The Caſe is the ſame with reſpect to the Occultation of a Star or Planet by the Moon, only this is further diſtinguiſhed by the Addition of Im. or Immerſion, to ſignify the Diſappearance behind the Moon; and Em. or Emerſion, to ſignify the Re-appearance of the ſame. Thus 8^{d} ☽ ϑ ♑ $16^{h}. 22'$. ſignifies that the Moon will be in Conjunction with the Star ϑ ♑ on the Eighth Day at $16^{h}. 22'$ excluſive of Parallax: And 10^{d}. ☽ ε ♊ Imm. $9^{h}. 14'$. Em. $10^{h}. 23'$ ſignifies that the Moon will eclipſe ε ♊ on the 10th Day, the Immerſion being at $9^{h}. 14'$. and the Emerſion at $10^{h}. 23'$. apparent Time at Greenwich.

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The Occultations ſet down are thoſe only viſible at Greenwich; the Circumſtances of which will commonly not differ very widely in moſt Parts of the Kingdom; but in very diſtant Places they will differ very much, owing to the Change of the Moon's Parallax, or it may become no Occultation at all: The like may be ſaid of Eclipſes of the Sun.

Eclipſes of the Sun, and Occultations of fixed Stars by the Moon, if obſerved in Places whoſe Latitude and Longitude are well determined, may be applied to the Correction of the Lunar Tables; but if made in Places whoſe Latitude only is well known, may be applied to the Determination of the Longitude of the Place; but for this Purpoſe an accurate Calculation muſt be made of the Moon's Parallaxes in Longitude and Latitude, which makes this Method of ſettling the Longitudes of Places, though a very accurate one, leſs convenient in Uſe for Perſons not much verſed in aſtronomical Calculations. However, this ought not to diſcourage Travellers or Mariners from endeavouring to make theſe Obſervations as often and as carefully as poſſible, when they ſhall happen to be at any Place whoſe Longitude they have Reaſon to think has not been well ſettled; ſince the neceſſary Calculations may be made at any Time afterwards by themſelves, at leiſure, or referred to the Skill of Aſtronomers and Mathematicians.

Eclipſes of the Moon are not liable to this Inconvenience; the Longitude of any Place, where an Eclipſe has been obſerved, being deduced immediately by taking the Difference of the Time of the Obſervation and that ſet down in the Ephemeris, and converting it into Degrees, at the Rate of 15° to One Hour, *&c.* or more briefly by Table Pages 6, 7, 8, of the Tables requiſite to be uſed with the Ephemeris. But, as the Beginning or Ending of an Eclipſe of the Moon cannot be generally obſerved nearer than One Minute, and ſometimes Two or Three Minutes of Time, the Longitudes of Places cannot be certainly determined by this Method from a ſingle Obſervation of the Beginning or End nearer than a Degree. It is unneceſſary to mention that even this Point of Exactneſs will often be of great Service. If both the Beginning and End of the Eclipſe be obſerved, a greater Degree of Exactneſs will be attained.

The Conjunctions of the Moon with the Planets, or fixed Stars not leſs than the fourth Magnitude, which may prove

Occultations in ſome inhabited Parts of the Globe, are evidently deſigned to inſtruct Mariners or Travellers to look out frequently for ſuch Obſervations; which if they happen to prove Occultations, and are carefully obſerved, will afford a certain Means of determining the Longitude of the Place of Obſervation.

The Two firſt Columns of the Second Page of the Month contain the Day of the Month and Week as before; next follow the Sun's Longitude, right Aſcenſion in Time, Declination, and the Equation of Time, with the Difference from Day to Day.

The Longitude of the Sun is made uſe of in moſt of the ſucceeding Calculations of the Ephemeris, and may ſerve either to verify them, or to make other ſimilar Calculations at a different Time of the Day. Particularly it may ſerve, with the Help of the Moon's Longitude, to find the Diſtance of the Moon from the Sun at any Time, independent of the Diſtances contained in the 8th, 9th, 10th, and 11th Pages of the Month. To find the Sun's Longitude at any Time different from Noon, Proportion muſt be made according to its daily Increaſe: Saying as 24^{h}. is to the Hour from Noon reckoned by the Meridian of Greenwich, ſo is the daily Variation of the Sun's Longitude, to a fourth Number; which added to the Sun's Longitude at the preceding Noon, gives the true Longitude at the given Time.

If the Time given be that of a Meridian different from Greenwich, it muſt be firſt reduced thereto, by adding or ſubſtracting the Difference of Longitude turned into Time (at the Rate of One Hour to 15°, and One Minute of Time to 15 Minutes, or more briefly by Pages 6, 7, and 8, of the requiſite Tables) according as the Place is to the Weſt or to the Eaſt of Greenwich. Example: Suppoſe any one ſhould want to know the Sun's Longitude, January 19, 1767, at 4^{h}. 35′. being in 21°. 15′, Longitude Eaſt of Greenwich. The Difference of Longitude turned into Time by Table Page 6, is 1^{h}. 25′ which ſubſtracted from 4^{h}. 35′, becauſe the Place is Eaſt of Greenwich, leaves 3^{h}. 10′, for the Time reduced to the Meridian of Greenwich. The Sun's Longitude the preceding Noon is 9^{s}. 29°. 18′. 2″, and the following Noon is 10^{s}. 0°. 19′. 4″. the Difference is, 1°. 1′. 2″, or 61′. 2″, the daily Variation. Then ſay, as 24^{h}. is to 3^{h}. 10′, ſo is 61′. 2″ to 8′. 3″. which added to 9^{s}. 29°. 18′. 2″, the Sun's Longitude on the preceding Noon, gives 9^{s}. 29°. 26′. 5″ the Sun's Longitude at

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the Time given. In like Manner any other of the following Articles is to be found by the Help of the Ephemeris.

The Sun's Longitude ſerves alſo to compute the Aberration of the fixed Stars and Planets.

The Sun's right Aſcenſion in Time is uſeful to the practical Aſtronomer in regular Obſervatories, who adjuſts his Clocks by ſidereal Time. It is alſo uſeful to him for converting apparent into ſidereal Time, as ſuppoſe that of an Eclipſe of Jupiter's Satellites, in order to know at what Time it may be expected to happen by his Clocks: For this Purpoſe, the Sun's right Aſcenſion at the preceding Noon, together with the Increaſe of right Aſcenſion from Noon, muſt be added to the apparent Time of the Phænomenon ſet down in the Ephemeris.

The Sun's right Aſcenſion in Time ſerves alſo to compute the apparent Time of a known Star's paſſing the Meridian: Thus, ſubſtract the Sun's right Aſcenſion in Time at Noon from the Star's right Aſcenſion in Time, the Remainder is the apparent Time of the Star's paſſing the Meridian nearly; from which the proportional Part of the daily Increaſe of the Sun's right Aſcenſion for this apparent Time from Noon being ſubſtracted, leaves the correct Time of the Star's paſſing the Meridian.

Hence the apparent Time may be found from an obſerved Altitude of a known fixed Star, ſuppoſe one contained Page 12 or 13 of the requiſite Tables; as will be explained hereafter.

The Sun's right Aſcenſion in Time is alſo uſeful for computing the Time of the Moon and Planets paſſing the Meridian, as will be ſhewn under their proper Articles.

The Sun's Declination is neceſſary to find the Latitude, whether at Sea or Land, from the Meridian Altitude obſerved; it is alſo requiſite for finding the Latitude from Two Altitudes obſerved with the Interval of Time meaſured by a Watch; it ſerves for computing the Sun's Azimuth, having his Altitude and the Latitude of the Place given, in order to find the Variation of the Compaſs; it is required jointly with the Latitude of the Place and the Sun's horary Angle to compute his Altitude, if neglected to be obſerved at the Time of taking the Moon's Diſtance from the Sun for finding the Longitude, being uſeful to facilitate the Calculation of the Effect of Refraction and Parallax upon the Diſtance; it is alſo neceſſary to calculate the apparent Time from an obſerved Altitude of the Sun at a Diſtance from

from the Meridian, the Latitude being given; or to compute the Time of the Sun's Setting or Riſing; which, though a leſs accurate Method than the former of obtaining the Time, may yet be uſeful when that cannot be had. For any of theſe Purpoſes, the Sun's Declination muſt be found to the Time given nearly reduced to the Meridian of Greenwich, making Proportion according to the daily Increaſe or Decreaſe, in like Manner as was ſhewn with reſpect to the Sun's Longitude.

The Equation of Time is a Correction, which added to or ſubſtracted from the apparent Time (according to its Title at the Top of the Column) gives equated or mean Time, or that which ſhould be ſhewn by a good Clock or Watch. Apparent Time is that which takes its Beginning from the Paſſage of the Sun's Centre over the Meridian of any Place; and had the Sun no Motion in the Ecliptic, or was his Motion reduced to the Equator or in right Aſcenſion uniform, he would always return to the Meridian after equal Intervals of Time. But his apparent Motion in the Ecliptic being continually varying, and his Motion in right Aſcenſion being rendered further unequal on account of the Obliquity of the Ecliptic to the Equator, from theſe Cauſes it ariſes that the Intervals of his Return to the Meridian become unequal, and the Sun will gradually become too ſlow or too ſoon to the Meridian for an equable Motion, ſuch as that of Clocks and Watches ought to be.

This Retardation or Acceleration of the Sun's coming to the Meridian is called the Equation of Time, and is contained in the laſt Column but One of Page 2d; and when applied according to its Title to the apparent Time, or that deduced immediately from the Sun, gives the mean or equated Time, whence the Error of a Clock or Watch may be found, and, if required, it may be corrected.

If it is propoſed to convert mean Time into apparent, this is done by a contrary Proceſs, by applying the Equation of Time to the mean Time given, with its Title or Sign changed; *viz.* ſubſtracting inſtead of adding, and adding inſtead of ſubſtracting.

The Equation of Time being ſet down in the Ephemeris for the Noon at Greenwich, Proportion muſt be made according to the daily Difference, to find what it ſhould be at any given Time reduced to the ſame Meridian, as in the preceding Articles. The laſt Column of this Page, containing the daily Differences of the Equation, is deſigned for this Purpoſe.

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As often as it may be required to make any Calculations from aſtronomical Tables, and the Time given be apparent Time; it is neceſſary firſt to apply the Equation of Time thereto to convert it into mean Time, the Tables being diſpoſed according to mean Motions. Thus the Articles contained in the Ephemeris anſwering to Noon were computed to 0^h. increaſed, or 24 Hours diminiſhed, by the Eqation of Time: And the Moon's Places ſet down for Midnight were computed to 12^h. increaſed or diminiſhed by the Equation of Time.

What has been ſhewn concerning the Equation of Time chiefly reſpects the Aſtronomer, the Mariner having nothing to do with it in computing his Longitude from the Moon's Diſtances from the Sun and Stars obſerved at Sea with the Help of the Ephemeris, all the Calculations thereof being adapted to apparent Time, the ſame which he will obtain by the Altitudes of the Sun or Stars in the Manner hereafter preſcribed.

But if Watches made upon Mr. John Harriſon's or other equivalent Principles ſhould be brought into Uſe at Sea, the apparent Time deduced from an Altitude of the Sun muſt be corrected by the Equation of Time, and the mean Time found compared with that ſhewn by the Watch, the Difference will be the Longitude in Time from the Meridian by which the Watch was ſet; as near as the Going of the Watch can be depended upon.

The Equation of Time is computed in the Manner explained in my Remarks upon that Subject, in the Philoſ. Tranſact. Vol. liv. P. 342 for the Year 1764; namely, by taking the Difference of the Sun's true right Aſcenſion, and his mean Longitude corrected by the Equation of the Equinoxes in right Aſcenſion, and turning it into Time at the Rate of 1′. to 15′. &c. The Equation of Time will be additive or ſubſtractive as the Sun's true right Aſcenſion is greater or leſs than his mean Longitude.

The Semidiameter of the Sun, Page 3d, is neceſſary to reduce the obſerved Altitude of his upper or lower Limb to that of the Centre; alſo to reduce the obſerved Diſtance of the Moon's neareſt Limb from the Sun's neareſt Limb to the Diſtance of the Centres. It is alſo uſeful to Aſtronomers to verify or aſcertain the Exactneſs of the Scale of their Micrometers, by Compariſon with the Meaſure of the Sun's horizontal Diameter. This Practice is particularly uſeful in ſolar

Eclipſes,

Eclipſes, when the Diſtance of the Cuſps or the Verſe Sine of the uneclipſed Part has been meaſured with the Micrometer. The Semidiameters of the Sun in Mayer's Tables, on which all the Calculations reſpecting the Sun and Moon are made, ſuppoſe the Semidiameter at the mean Diſtance to be 16'. 2'', 8. which Mr. Mayer ſays he deduced from above 130 Obſervations taken with his Six Feet mural Quadrant, which ſeemed to him not ill adapted to the Purpoſe. It may not be amiſs to take this Opportunity to remark, that the Quadrant here mentioned was given to the Univerſity of Gottingen by his late Majeſty, and was made by that ingenious Artiſt the late Mr. John Bird after the Model of the Eight Feet mural Arch, which he finiſhed for the Royal Obſervatory at Greenwich, and put up there in the Year 1750. Mr. Mayer made his Obſervations with his Six Fee tmural Arch, from the Year 1756, to the Time of his Deceaſe; with it he ſettled the mean Obliquity of the Ecliptic to the Beginning of the Year 1756, at 23°. 28'. 16'' which Dr. Bradley ſettled by his Obſervations made in the Years 1750 and 1751, at 23°. 28'. 18''. The Difference is agreeable to what ought to ariſe from the gradual Diminution of the Obliquity of the Ecliptic at the Rate of about $\frac{1}{2}$ a Second in a Year. The ſame Inſtrument he alſo uſed in ſettling the Elements of his ſolar Tables; and it is moſt probable that with the ſame he ſettled his Table of Refractions at the End of his ſolar Tables; the Agreement of this Table with Dr. Bradley's, ſee Page 2d of requiſite Tables (being both ſuited to the ſame Temperature of the Air) is ſo great, that they ſeem rather like One and the ſame than Two different Tables,

The Time of the Sun's Sediameter paſſing the Meridian, ſerves to reduce an Obſervation of a Tranſit of the preceding or ſubſequent Limb over the Meridian to that of the Centre, when only One was obſerved. It ſignifies a Portion of apparent Time, or even mean Time, the Difference being abſolutely inſenſible upon ſo ſmall an Interval. It is found thus: Increaſe the Sun's Semidiameter in the Ratio of the Coſine of his Declination to the Radius, to find his Semidiameter in right Aſcenſion, which turned into Time at the Rate of 1'. to 15'. and 1''. to 15''. gives the Time required. The Sun's Semidiameter in right Aſcenſion is readily found by adding the Log. Coſine of his Declination to the logiſtic Logarithm of his Semidiameter, the Sum is the logiſtic Logarithm of his Semidiameter in right Aſcenſion; which divided by 15 gives the Time of his Semidiameter paſſing the Meridian. If the Clock by which the Obſervation is made be regulated according to the ſiderial Time, this Quantity muſt be increaſed in the Ratio of 365 to 366, if great Preciſion is required.

From the Time of the Sun's Semidiameter paſſing the Meridian may be alſo found the Time of its paſſing the horizontal or vertical Wire of a Quadrant or Sextant, which on ſome Occaſions may have its Uſe.—The hourly Motion of the Sun is uſeful in computing ſolar and lunar Eclipſes; alſo in correcting the aſſumed Longitude of the Ship, in order to find the Time from an Obſervation of the Diſtance of the Moon from the Sun, independent of the Diſtances contained in the Nautical Ephemeris; See Britiſh Mariner's Guide, Page 49, and Table at the End of the ſame, Page 25, which is alſo copied at Page 14 of requiſite Tables. The Logarithm of the Sun's Diſtance is uſeful in the Calculation of the Places of the Planets and Comets. The Place of the Moon's Node ſignifies its mean Longitude, and is neceſſary for finding the Equation of the equinoctial Points both in Longitude and right Aſcenſion, the Equation of the Obliquity of the Ecliptic, and the Deviations of the fixed Stars in right Aſcenſion and Declination.

The Eclipſes of Jupiter's Satellites are well known to afford the readieſt, and for general Practice the beſt Method of ſettling the Longitudes of Places at Land; and it is by their Means principally that Geography has been ſo much reformed within a Century paſt, and the Poſition of the moſt diſtant Places determined to equal Accuracy with the neareſt. It was hoped that ſome means Might be found of uſing proper Teleſcopes on Shipboard to obſerve theſe Eclipſes; and could this be effected, it would be of great Service in aſcertaining the Longitude of a Ship from time to time. In my Voyage to Barbadoes under the Direction of the Commiſſioners of Longitude, I made a full Trial of the late Mr. Irwin's Marine Chair propoſed for this Purpoſe, but found it totally impracticable to derive any Advantage from the Uſe of it; and, conſidering the great Power requiſite in a Teleſcope for making theſe Obſervations well, and the Violence as well as Irregularities of the Motion of a Ship, I am afraid the complete Management of a Teleſcope on Shipboard will always remain among the Deſiderata. However, I would not be underſtood to mean to diſcourage any Attempt founded upon good Principles to get over this Difficulty.

The Teleſcopes proper for obſerving the Eclipſes of Jupiter's Satellites, are common refracting Teleſcopes, from 15 to 20 Feet, reflecting Teleſcopes of 18 Inches or Two Feet focal Length, and Teleſcopes of Mr. Dollond's Conſtruction with Two Object Glaſſes from Five to 10 Feet; or, which are ſtill more convenient, thoſe of 46 Inches focal Length, conſtructed with Three Object Glaſſes, which are as manageable as reflecting Teleſcopes, and perform as much as thoſe which he makes of 10 Feet with Two Object Glaſſes.

The Eclipſes of Jupiter's Satellites are obſerved by Aſtronomers at Land, as well in order to provide Materials for improving the Theories and Tables of their Motions, as for the ſake of Compariſon with the correſponding Obſervations which may be made by Perſons in different Parts of the Globe, whereby the Longitude of ſuch Places will be accurately aſcertained. It is indeed to be lamented that Perſons who viſit diſtant Countries are not more diligent to multiply Obſervations of this Kind, for want of which, the Obſervations made by Aſtronomers in eſtabliſhed Obſervatories loſe Half their Uſe, and the Improvement of Geography ſeems to be at a Stand. But it is to be hoped that an Emulation will ſpring up among thoſe who may have Opportunities of rendering ſo uſeful a Service to the Public, to incite them to watch diligently for the Occaſions of obſerving theſe Eclipſes carefully, particularly of the Firſt and Second, which are moſt exact for the Purpoſe. The Eclipſes carefully calculated and ſet down in the Ephemeris, will ſerve to advertiſe them and Obſervers in general of the Times when they ſhould attend to theſe Obſervations. The Perſon who ſhall be under any Meridian different from Greenwich, muſt turn his Difference of Longitude into Time: See Table Page 6, 7, and 8, and add it to or ſubſtract it from the Time of the Eclipſe ſet down in the Ephemeris, according as he is to the Eaſt or Weſt of Greenwich, to find the apparent Time at which the Eclipſe will happen at his Meridian, nearly. He muſt further take care to regulate his Watch or Clock by apparent Time, or at leaſt to know the Difference, as well in order to apprize him of the Time to look out for the Eclipſe, as for aſcertaining the apparent Time exactly at which he ſhall obſerve it. Equal Altitudes of the Sun or Stars taken with an aſtronomical Quadrant afford the beſt Means of regulating Clocks and Watches for occaſional Obſervations; or they may be taken with a Hadley's Quadrant, by Reflection from a Baſon of Water or Quickſilver, or from the Horizon of the Sea, if the Obſerver has an open Proſpect, and is not elevated above 5 or 600 Feet above the Level of the Sea. But, if Opportunity does not admit of taking equal Altitudes, the Time may be determined from One Altitude taken in any of the Methods above-mentioned, at leaſt Two or Three Points of the Compaſs diſtant from the Meridian, but the nearer to the Eaſt or Weſt the better, the Latitude of the Place being known, or being found by Obſervations of the Meridian Altitude of the Sun or Stars made on Purpoſe. It will be better to take ſeveral Altitudes in order to take a Mean of the Reſults for greater Certainty. And if one Star be obſerved to the Eaſt and the other to the Weſt of the Meridian, the Time will be determined with rather more Certainty. The Manner of computing the apparent Time from the Altitude of the Sun or a Star will be ſhewn when we come to treat of the Method of finding the Longitude by the Obſervations of the Diſtance of the Moon from the Sun and Stars by the Help of the Ephemeris.

The Obſerver being in a Place whoſe Longitude is well known, ſhould be ſettled at his Teleſcope Three Minutes before the expected Time of an Immerſion of the firſt Satellite; Six or Eight Minutes before that of the ſecond and third Satellites; and a Quarter of an Hour or more before that of the fourth Satellite; chiefly on account of the Uncertainty of their Theories; but, if the Longitude of the Place is very uncertain, he muſt begin to look out for the Eclipſe proportionably ſooner: Thus, if the Longitude of the Place is uncertain to 3 Degrees, anſwering to 12 Minutes of Time, he ought to fix himſelf to his Teleſcope 12 Minutes ſooner than is mentioned above. Nevertheleſs, when he has obſerved One Eclipſe of any Satellite, and thereby found the Error of the Tables, he may allow the ſame Correction to the Calculations of the Ephemeris for ſeveral Months, which will advertiſe him very nearly of the Time of expecting the Eclipſes of the ſame Satellite, and diſpenſe with his attending ſo long.

The Immerſions ſignify the Inſtant of the Diſappearance of the Satellite by entering into the Shadow of Jupiter; and the Emerſions ſignify the firſt Inſtant of its Appearance at coming out of the ſame. They generally happen when the Satellite is at ſome Diſtance from the Body of Jupiter, except near the Oppoſition of Jupiter to the Sun, when the Satellite approaches nearer to his Body. Before the Oppoſition of

Jupiter to the Sun the Immerſions and Emerſions happen on the Weſt Side of Jupiter, and after the Oppoſition on the Eaſt Side; but if an aſtronomical Teleſcope be uſed, which reverſes Objects, the Appearances will be directly the contrary. Before the Oppoſition, the Immerſions only of the firſt Satellite are viſible; and after the Oppoſition, the Emerſions only. The ſame is generally the Caſe with reſpect to the ſecond Satellite; both the Phænomena of the ſame Eclipſe are frequently obſervable in the Two outer Satellites. The Immerſions and Emerſions marked with an Aſteriſk in the Ephemeris are thoſe viſible at Greenwich.

To know if an Eclipſe will be viſible in any Place, find if Jupiter is 8°, or 10° above the Horizon of the Place, and the Sun as much below it. This may be done near enough by a celeſtial Globe: Otherwiſe, the Time of the Sun's Riſing and Setting may be found for any Latitude by a Table of ſemidiurnal Arcs, contained in the popular Book called the Mariner's Compaſs Rectified, and many other Books; the Time of Jupiter's Riſing and Setting may alſo be found from the Time of his paſſing the Meridian and Declination ſet down in the Ephemeris, with the Help of the ſame Table of ſemidiurnal Arcs; adding or ſubſtracting the ſemidiurnal Arc anſwering to the ſame Declination of the Sun: Remembering always that if Jupiter's Declination and the Latitude of the Place are of the ſame Denomination, the ſemidiurnal Arc will be more than Six Hours, and if they are of contrary Denominations, will be leſs than Six Hours.

The Immerſion or Emerſion of any Satellite being carefully obſerved in any Place according to apparent Time, the Longitude from Greenwich is found immediately by taking the Difference of the Obſervation from the correſponding Time ſhewn in the Ephemeris, which muſt be turned into Degrees, *&c.* by Table Page 6, 7, and 8; and will be Eaſt or Weſt of Greenwich, as the Time obſerved is more or leſs than that of the Ephemeris.

Example; Suppoſe an Emerſion of the firſt Satellite ſhould be obſerved at the Cape of Good Hope, May 9, 1767, at $10^{h}.\ 46'.\ 45''$ apparent Time: The Time by the Ephemeris being $9^{h}.\ 33'.\ 12''$, the Difference is $1^{h}.\ 13'.\ 33''$, whence by Table Page, 6, 7, and 8, the Longitude of the Cape ſhould be $18°.\ 23'.\ 15''$, Eaſt of Greenwich, becauſe the Time ſuppoſed to be obſerved at the Cape is more than that of the Ephemeris.

It is to be obſerved that a correſpondent Obſervation of an Eclipſe of a Satellite of Jupiter, made under a well-known Meridian, is to be preferred to the Calculations of the Ephemeris for comparing with an Obſervation made in a Meridian whoſe Longitude is required; but if no correſponding Obſervation can be obtained, as is frequently the Caſe, it will be beſt to find what Correction the Calculations of the Ephemeris require by the neareſt Obſervations to the given Time that can be obtained; which Correction, applied to the Calculation of the given Eclipſe in the Ephemeris, renders it almoſt equivalent to an actual Obſervation.

The Longitudes and Latitudes of the Planets, Page 4, ſerve to know where to look for them in the Heavens, and when their Places may be conveniently ſettled by comparing them with fixed Stars by the Help of a Micrometer in a Teleſcope. They alſo ſhew when they are in the moſt important Points of their Orbits, where it is moſt material to obſerve them. They alſo ſerve to enable Perſons leſs ſkilled to diſtinguiſh them from the fixed Stars. Their Declinations and apparent Time of paſſing the Meridian are particularly uſeful to Aſtronomers who are furniſhed with Quadrants and Tranſit Inſtruments well fixed in the Meridian, in ſetting their Inſtruments for obſerving their right Aſcenſions and Declinations.

The apparent Time of a Planet's paſſing the Meridian may be computed thus; the Planet's right Aſcenſion being calculated from its Longitude and Latitude, and turned into Time, ſubſtract the Sun's right Aſcenſion at Noon in Time from it, to find the Time of the Planet's paſſing the Meridian nearly, which call T; take the Difference of the ⊙ and Planet's daily Variations in right Aſcenſion in Time, if the Planet is progreſſive in right Aſcenſion, or the Sum if it is retrograde, which call X; then ſay, by the Rule of Proportion;

As $24^{h.} \mp X : T :: X : e$ and $T \pm e$ will be the correct Time of the Planet's paſſing the Meridian. The upper Signs are to be uſed both to X and e if the Planet's progreſſive Motion in right Aſcenſion be greater than that of the Sun; in any other Caſe the lower Signs are to be made uſe of.

But perhaps it may be found more readily by continual Approximation as follows: Take the proportional Part of the Difference or Sum of the ⊙ and Planet's daily Motion in right Aſcenſion, anſwering to the Time of the Planet's paſſing the Meridian, found nearly, in Proportion to 24^{h}. and take a further like proportional Part of this proportional Part; and again

again of this laſt, and ſo on as far as is neceſſary. The Sum of all theſe proportional Parts added to the Time of the Planet's paſſing the Meridian found nearly, if the Planet's progreſſive Motion in right Aſcenſion is greater than that of the Sun, otherwiſe ſubſtracted, gives the apparent Time of the Planet's paſſing the Meridian.

Example: Let it be required to find the Time of the Moon's paſſing the Meridian, July 1, 1767.

The Sun's right Aſcenſion in Time July 1ſt is, $6^{h}.40'.25''$. and July 2d, $6^{h}.\ 44'.\ 33''$ by the Ephemeris. Therefore his daily Motion in right Aſcenſion is $4'.\ 8''$. The Moon's right Aſcenſion July 1ſt at Noon by the Ephemeris, is $159^{\circ}.\ 2'$ anſwering to $10^{h}.\ 36'.\ 8''$ of Time, and July 2d is, $169^{\circ}.\ 39'$, anſwering to $11^{h}.\ 18'.\ 36''$. The Difference is, $42'.\ 28''$ of Time, from which $4'.\ 8''$ being ſubſtracted, leaves $38'.\ 20''$. Subſtract $6^{h}.\ 40'.\ 25''$, the Sun's right Aſcenſion July 1ſt at Noon, from $10^{h}.36'.8''$, the Moon's right Aſcenſion the ſame Noon, the Remainder $3^{h}.\ 55'.43''$, is the Approximate Time of the Moon's paſſing the Meridian. The proportional Part of $38'.\ 20''$ anſwering to this, is $6'.17''$, and the proportional Part of $6'.17''$ is $9''$; therefore $6'.\ 17''$ and $9''$ or $6'.\ 26''$ added to $3^{h}.\ 55'.\ 43''$ give $4^{h}.\ 2'.\ 9''$, the apparent Time of the Moon's paſſing the Meridian. In the Ephemeris it is $4^{h}.\ 2'$. It may alſo be computed by taking the Difference of the Moon's right Aſcenſion at Noon and Midnight, but then Half the Sun's daily Variation in right Aſcenſion muſt be made uſe of, and Proportion muſt be made for 12 inſtead of 24 Hours: And if the Moon paſſed the Meridian after Midnight, the Sun's right Aſcenſion at Midnight muſt be uſed, which is a Mean between his right Aſcenſions on the preceding and ſubſequent Noon. For the Planets, it will be ſufficient to take the firſt proportional Part only.

The Days of the Oppoſitions, Quadratures, &c. of the Planets to the Sun, are Times at which they ought to be obſerved in fixed Obſervatories, for ſettling the Elements of their Orbits by a Series of ſeveral Years Obſervations.

The 5th, 6th, 7th, 8th, 9th, 10th, and 11th Pages of each Month contain the Moon's Place, and all the Circumſtances relating to her Motions, and her Diſtances from the Sun and proper Stars, from which her Diſtance ſhould be obſerved for finding the Longitude at Sea. The Longitudes, Latitudes, and Declinations of the Moon, and Time of her paſſing the Meridian, afford the like Uſes with the ſame

Circumſtances

Circumſtances of the Planetary Motions, and many more beſides. For the ſake of greater Preciſion, the Moon's Longitude, Latitude, Right Aſcenſion, Declination, Semidiameter, horizontal Parallax, with its logiſtic or proportional Logarithm, are computed twice a Day, to Noon and Midnight, and may readily be inferred to any intermediate Time with the greateſt Exactneſs.

Example: Let it be required to find the Moon's Longitude and Latitude, *&c.* July 16, 1767, at 16^h. 22′. 16″. Firſt to find the Longitude. The Moon's Longitude, July 16, at 12^h. is 0^s. 6°. 40′. 25″. and July 17 at Noon, 0^s. 13°. 47′. 48″. the Difference 7°. 7′. 23″ is the Moon's Motion in 12 Hours; ſay then, by the Rule of Proportion,

As 12^h. is to 4^h. 22′. 16″ (the Exceſs of 16^h. 22′. 16″ above 12^h.) ſo is 7°. 7′. 23″ to 2°. 35′. 41″, which added to 0^s. 6°. 40′. 25″, the Moon's Longitude at 12^h. gives 0^s. 9°. 16′. 6″, the Moon's Longitude nearly; but this muſt be corrected on account of the Moon's unequal Motion in 12 Hours, by Page 11 of Requiſite Tables; for this Purpoſe take out of the Ephemeris the Two Longitudes of the Moon next preceding the given Time, and the Longitudes immediately following it, and ſet them down in Order one after another, as follows.

		1ſt Diff.	2d Diff.
	s ° ′ ″	° ′ ″	′ ″
July 16, Noon	11. 29. 29. 34		
Midnight	0. 6. 40. 25	7. 10. 51	
17, Noon	0. 13. 47. 48	7. 7. 23	3. 28
Midnight	0. 20. 51. 27	7. 3. 39	3. 44

Take their Differences, 7°. 10′. 51″, 7°. 7′. 23″, 7°. 3′. 39″, take the Differences of theſe Differences, or the 2d Differences, 3′. 28″; 3′. 44″. and take their Mean which is 3′. 36″. Now look for the Correction in Page 11 of Requiſite Tables anſwering to 4^h. 22′ after Midnight, found on the Side, and 3′. 36″ at Top, 21″ will be found under 3′. and 28″. under 4′. the Difference is 7″. when 36″ will require 4″, and the Correction ſought is 21″+4″=25″. which, according to the Remark at the Bottom of the Table, muſt be added (becauſe the Motion in 12 Hours or firſt Differences are decreaſing to 0^s. 9°. 16′. 6″, the Moon's Longitude found by even Proportion;

Proportion; whence the Moon's true Longitude is 0s. 9°. 16′. 31″, and is as correct as the Longitudes from which it is deduced.

N. B. If the firſt Differences of the Four Longitudes of the Moon taken out firſt increaſe and then decreaſe, or, vice verſâ, firſt decreaſe and then increaſe, take Half the Difference of the Two ſecond Differences for the Mean ſecond Difference, with which take the Correction from Page 11, and add or ſubſtract it as the Firſt firſt Difference is greater or leſs than the Third firſt Difference.

To find the Moon's Latitude. Take out of the Ephemeris the Two Latitudes preceding and Two following the given Time, and ſet them down in Order, and take their firſt and ſecond Differences, and the Mean of the Two ſecond Differences; find the proportional Part of the Middle firſt Difference anſwering to the Hours and Minutes, *&c.* of the given Time after Noon or Midnight; which correct in the following Manner: Entering Table Page 11 with the Hour from Noon or Midnight on the Side, and the Mean ſecond Difference at Top, take out the correſponding Number of Seconds, which added to or ſubſtracted from the proportional Part found above, according as the Motion in 12 Hours or firſt Differences are decreaſing or increaſing; or, more generally, according as Firſt firſt Difference is greater or leſs than Third firſt Difference, gives the proportional Part corrected; which now added to or ſubſtracted from the Moon's Latitude at the preceding Noon or Midnight, as the Latitude in theſe 12 Hours is increaſing or decreaſing, gives the Moon's Latitude correct.

Example: The Moon's Latitude is required, July 16, 16h. 22′. 16″.

	☽'s Lat. by the Ephem.	1ſt Dif.	2d Dif.	Mean of 2d Dif.
	° ′ ″	′ ″	′ ″	′ ″
July 16. Noon	4. 31. 10 N.	18. 26		
Midnight	4. 49. 36	13. 50	4. 36	4. 40
17 Noon	5. 3. 26	9. 6	4. 44	
Midnight	5. 12. 32			

The Moon's Latitude July 16 at Midnight being 4°. 49′ 36″. N. and the Motion in the next 12 Hours being 13′. 50″. ſay by Proportion, As 12h. is to 4h. 22′. 16″, ſo is 13′. 50″, to 5′. 2″; but this muſt be corrected by adding 33″. the Correction from Page 11, anſwering to the Hour 4h. 22′, and the Mean ſecond Difference 4′. 40″, becauſe the firſt Differences are decreaſing, or rather becauſe the firſt of them 18′. 26″, is greater than the laſt of them 9′. 6″, therefore the proportional Part corrected is 5′. 2″ + 33″ = 5′. 35″, which added to 4°. 49′. 36″, gives 4°. 55′. 11″ N. the Moon's Latitude correct.

Remarks on ſome Circumſtances neceſſary to be attended to, in order to obtain and apply the Correction of ſecond Differences rightly in computing the Moon's Latitude.

I. If the Moon's Latitude taken out of the Ephemeris for Noon and Midnight changes its Denomination from North to South or from South to North, the Sum of the Two Latitudes of contrary Denominations, where the Change happens, is to be accounted the firſt Difference in that Place.

II. If the Three firſt Differences firſt increaſe and then decreaſe, or vice verſâ, firſt decreaſe and then increaſe, Half the Difference of the Two ſecond Differences is to be taken for the Mean ſecond Difference.

III. If the Series of Four Latitudes taken out ſhould firſt increaſe and then decreaſe about the Moon's greateſt Latitudes, take the Sum of the Two firſt Differences ſtanding on each Side of the greateſt Latitude for the ſecond Difference in that Place; correct the Moon's Latitude at Noon or Midnight by the ſimple proportional Part firſt found; and to the Latitude ſo corrected, add always in this Caſe the Correction from Table Page 11, anſwering to the Mean of the Two ſecond Differences.

Before I quit this Subject of Interpolation by ſecond Differences, I ſhall point out another Method, by which the ſame End may be obtained more readily, and with fewer Rules, by thoſe who are well acquainted with algebraic Subſtraction and Addition, and the Manner of applying the Signs in thoſe Operations. Subſtract each Latitude from the following for the firſt Differences, to which prefix the Sign — if the Latitudes decreaſe; and ſubſtract each firſt Difference, thus found, from the following one of the ſame Order for the ſecond Differences. Half the Sum of the Two ſecond Differences ſtanding on each Side of the Interval to be interpolated, is to be accounted the Mean ſecond Difference; the Correction correſponding to it by Table Page 11, is to be applied always with the contrary Sign.

Theſe Operations are to be performed, and the Signs to be applied as in algebraic Subſtraction and Addition. Note further, if the Four given Latitudes change their Denomination, call the ſecond Latitude +, and thoſe of a contrary Denomination —.

The Moon's Declination may be found at any Hour in the ſame Manner as her Latitude; but as the Correction ariſing from ſecond Differences will never exceed $2\frac{1}{2}$, this may be neglected on moſt Occaſions; but if any one is deſirous to obtain the Declination true to a Minute, the Correction is eaſily applied, as ſhewn above.

The other Articles of Page 7, and 8, *viz.* the Moon's right Aſcenſion, her Semidiameter, horizontal Parallax, with its Logarithm, and the Diſtances contained in the Four laſt Pages of the Month, may be all found correctly by even Proportion, without requiring any Allowance on Account of ſecond Differences. The proportional Part of the Moon's Longitude, *&c.* for any Hour, may be found very readily by the Help of the Table of proportional Logarithms at the End of the requiſite Tables; for which conſult the Explanation of thoſe Tables.

The Moon's Longitude and Latitude are uſed in computing her Diſtances from the Sun and Stars contained in the Four laſt Pages of the Month, as well as in the Appulſes to Stars pointed out in Page 1, and, jointly with her Parallax and Semidiameter, are neceſſary for computing the Eclipſes of the Sun and Moon, and the Occultations of fixed Stars and Planets by the Moon. They alſo facilitate the Calculation of the Longitude of any Place from an Eclipſe of the Sun, or an Occultation of a Star or Planet by the Moon obſerved: Or, if the Meridian be well known, the Parallax and Semidiameter ſerve to deduce the Moon's true Place in the Heavens from the Obſervation, which compared with that given by the Ephemeris ſhews the Error of the Tables, whatever it be at that Time. The Moon's Semidiameter and Parallax are applied in correcting almoſt all Obſervations of the Moon. The proportional Logarithms of the Moon's Parallax ſerve further to facilitate the Calculations of Parallaxes.

The Moon's right Aſcenſion and Declination are uſeful to compute her Altitude at any Time, particularly at the Obſervation of her Diſtance from the Sun or a Star, ſuppoſing it was neglected to be or could not be obſerved properly; which latter Caſe may ſometimes happen in the Night, though I think but rarely; the utmoſt Accuracy not being required for

for the Calculations of Refraction and Parallax. See Britiſh Mariner's Guide, Page 57. The Moon's Declination, with her Semidiameter and Parallax, ſerve for finding the Latitude by the Meridian Altitude of her upper or lower Limb obſerved at Sea. See Britiſh Mariner's Guide, Page 93. The Moon's right Aſcenſion and Declination ſerve alſo to compute the Time from her Altitude obſerved at the Obſervation of her Diſtance from a Star; whence the Longitude may be inferred, though no Altitude of the Sun or a Star was taken for regulating the Time. See Britiſh Mariner's Guide, Page 61.

The Diſtances of the Moon from the Sun and fixed Stars, contained in the 8th, 9th, 10th, and 11th Pages of the Month, are ſet down to every Three Hours of Apparent Time by the Meridian of Greenwich, and are deſigned to relieve the Mariner from the Neceſſity of a Calculation, which he might think prolix and troubleſome, and to enable him, when compared with the ſame Diſtances obſerved carefully at Sea, to infer his Longitude readily and with little Danger of Miſtake to a Degree of Exactneſs that may be thought ſufficient for moſt nautical Purpoſes. But uſeful and valuable as the Practice of this Method may be at preſent, it is a Remark not unworthy our Notice, that there is Room to hope, by future Improvements of the Lunar Tables, and the Introduction of a more accurate Method of conſtructing Inſtruments, it may be carried to a much higher Degree of Perfection.

The Moon's Diſtances are computed both from the Sun and proper Stars, and generally from One Object on each Side of her, to afford the Mariner a greater Number of Opportunities of Obſervation, and a Means of attaining a greater Degree of Exactneſs. The Diſtances from the Sun are computed between 40° and 120° of Diſtance. While the Moon is between the Diſtances of 20° and 40° from the Sun, her Diſtance is computed only from a Star on the contrary Side that the Sun is. When ſhe is between the Diſtances of 40° and 90° from the Sun, her Diſtance is computed both from the Sun and from a Star on the contrary Side to the Sun; when the Moon is above 90° from the Sun her Diſtance is computed from Two Stars, one on each Side of her; though ſtill her Diſtance is computed alſo from the Sun from 90° to 120°. Though the Diſtance of the Moon from the Sun or Star, well obſerved with a good Inſtrument, is ſufficient to determine the Longitude, with the Help of the

Ephemeris, always within a Degree, and generally much nearer, yet it will conduce to ſtill greater Accuracy, if the Obſerver takes the Diſtance of the Moon from Two Stars, or the Sun and a Star, or, when the Moon is between 90° and 120° Diſtance from the Sun, from the Sun and Two Stars, if he can be ſo lucky as to obtain theſe ſeveral Obſervations.

The Longitude being computed from the Obſervations made with each Star reſpectively, the Mean of the Reſults is to be taken as probably approaching neareſt to the true Longitude. In particular the Moon's Diſtance ſhould be taken from Two Stars, or the Sun and a Star on each Side of her, as often as Opportunity permits, ſince the Mean of the Reſults will probably be at leaſt as exact again as either ſeparately, I mean as far as depends on any Imperfection of the Inſtruments, and unavoidable ſmall Errors ariſing in the Uſe of them; Errors of theſe Kinds having a natural Tendency to correct each other; for that ſmall Error which ariſes from the Lunar Tables will affect the Reſult from either Star equally. But the Error of Mr. Mayer's laſt Lunar Tables as corrected by a Series of Dr. Bradley's Obſervations of 9 Years, being theſe here made uſe of, never exceeding 45″, and ſeldom amounting to 15″, the Uncertainty hence ariſing in the Determination of the Longitude can ſcarcely exceed 22 Miles, and generally will not exceed 10 Miles of Longitude.

The Diſtances ſet down in the Ephemeris, afford the Obſerver a ready Means of knowing the Star from which the Moon's Diſtance is to be obſerved; for he has nothing to do but to ſet his Quadrant to the Diſtance computed roughly from the Ephemeris, neglecting the Seconds, at the apparent Time eſtimated nearly by the Meridian of Greenwich; and direct his Sight to the Eaſt or Weſt of the Moon, according as the Diſtance at Greenwich is found in the 8th and 9th, or 10th and 11th Pages of the Month; and having found the Moon upon the little Speculum, let him give a Sweep with the Quadrant to the Right and Left, and he will find the Star he ſeeks for, if above the Horizon and the Air be clear, nearly in a Line perpendicular to the Line of the Moon's Horns or longer Axis, or, which is the ſame Thing, in the Line of the Moon's ſhorter Axis produced. The Star is always one of the brighteſt, ſo that there is little Danger of miſtaking another for it, if the preceding Directions are carefully obſerved. The Time at Greenwich is eſtimated nearly by turning the ſuppoſed Longitude from Greenwich

into

into Time, by Table Page 6, 7, and 8, and adding it to or ſubſtracting it from the apparent Time at the Ship, as its Longitude is Weſt or Eaſt of Greenwich. It will be ſufficient if the Diſtance be computed from the Ephemeris within 10′, or 20′, for ſetting the Quadrant. The principal Uſe of the Diſtances of the Moon from the Sun and fixed Stars; namely, in determining the Longitude by Compariſon with the correſponding Diſtances obſerved at Sea, will be ſhewn hereafter in its proper Order, in the Diſſertation explaining the Method of computing the Longitude at Sea by the Help of the Ephemeris.

The Diſtances contained in the Ephemeris were computed ſtrictly to Noon and Midnight, and thence interpolated for every Three Hours, according to the Method ſhewn for computing the Moon's Latitude, Page 160—162: Except that the Correction of ſecond Differences at the Middle of the Interval to be interpolated, was taken $\frac{1}{8}$ of the Mean of the Two ſecond Differences, and at the Firſt and Third Quarter of the Interval was taken $\frac{3}{4}$ of the Correction juſt found at the Middle of the Interval; inſtead of conſulting Table Page 11, which would however have given the ſame Reſult. But, at the firſt 12 Hours, when the Diſtances of the Moon from a Star begin, and the laſt 12 Hours, when the Diſtances end, there being only One ſecond Difference inſtead of Two ſecond Differences on each Side to take a Mean of, this Method fails in theſe Caſes, and therefore the following is to be ſubſtituted in its ſtead, being derived from Sir Iſaac Newton's Solution of the Problem of drawing a Curve through the Extremities of any Number of given Ordinates. Phil. Nat. Princ. Math. Page 486. Edit. ult.

From Four Diſtances at Noon and Midnight computed ſtrictly, to interpolate Three Diſtances at the 3d, 6th, and 9th Hour of the firſt or laſt Interval.

Subſtract each Diſtance from the following, for the firſt Differences, and prefix the Sign —, if the Diſtances decreaſe. Subſtract each firſt Difference thus found from the following One of the ſame Order, for the ſecond Differences: And in like Manner ſubſtract the Firſt 2d Difference from the following for the third Difference; applying the Signs as in algebraic Subſtraction. Denote the firſt or laſt firſt Difference by *b*, the firſt or laſt ſecond Difference by *c*; according as the Interpolation to be made is for the firſt or laſt 12 Hours, denote alſo the third Difference by *d*, and, *a* being put to

ſignify

ſignify the Diſtance at the Beginning of the Interval, the interpolated Diſtances will be as follows:

At 3d Hour of firſt Interval	$a + \frac{1}{4} b - \frac{3}{32} c + \frac{7}{128} d$
At 6th Hour of firſt Interval	$a + \frac{1}{2} b - \frac{1}{8} c + \frac{1}{16} d$
At 9th Hour of firſt Interval	$a + \frac{3}{4} b - \frac{3}{32} c + \frac{5}{128} d$
Or	
At 3d Hour of laſt Interval	$a + \frac{1}{4} b - \frac{3}{32} c - \frac{5}{128} d$
At 6th Hour of laſt Interval	$a + \frac{1}{2} b - \frac{1}{8} c - \frac{1}{16} d$
At 9th Hour of laſt Interval	$a + \frac{3}{4} b - \frac{3}{32} c - \frac{7}{128} d$

In adapting theſe Formulæ to Numbers, great Care muſt be taken about the right Application of the Signs. Thus if *b*, *c* or *d* is Negative, apply the Number expreſſing the Value of that Term of the Formula where it is found with a contrary Sign to that of the Formula.

Let me add in this Place, that if in filling up the firſt and laſt Intervals, a new ſecond Difference has been ſuppoſed in arithmetical Progreſſion with the Two given ones, in order to take a Mean between it and the firſt or laſt ſecond Difference, the Interpolation at the Middle of the Interval or 6th Hour will be had true, the ſame as if the above Formulæ had been uſed: But at the Interpolation of the firſt and third Quarter there will be an Error of $\frac{1}{128}$ third Difference; which will be corrected, by applying $+ \frac{1}{128} d$ or third Difference, to Number found at the firſt Quarter of the Interval, and $- \frac{1}{128} d$ to that found at the third Quarter of the Interval; equally the ſame whether it be the firſt or laſt Interval.

The Configurations of Jupiter's Satellites, Page 12th and laſt, exhibit the apparent Poſitions of the Satellites with reſpect to each other, and to Jupiter at ſuch an Hour of the Evening or Night as they are moſt likely to be obſerved, and ſerve to diſtinguiſh the Satellites from one another. Jupiter is diſtinguiſhed by the Mark ⊙, and the Satellites by Points with Figures annexed, the Figure 1 ſignifying the firſt Satellite, 2 the ſecond Satellite, *&c.* When the Satellite is approaching towards Jupiter, the Figure is put between Jupiter and the Point; and when the Satellite is receding from Jupiter, the Figure is put on the other Side of the Point. The Satellites are in the ſuperior Parts of their Orbits, or furtheſt from the Earth, when they are marked to the right Hand or Weſt of Jupiter approaching him; or to the left Hand or Eaſt of Jupiter receding from him; but are in the inferior Part of their

their Orbits, or neareſt to the Earth, when they are marked to the right Hand or Weſt of Jupiter receding from him, or to the left or Eaſt of Jupiter approaching him. The Cypher o ſometimes annexed to the Figure of the Satellite towards the Margin, ſignifies that it is inviſible on the Face of Jupiter; and the black Mark ●, ſignifies that it is inviſible, being eclipſed in Jupiter's Shadow, or behind Jupiter, and eclipſed by his Body.

THE END.

MVSEVM
BRITAN
NICVM

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